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THE ZOOLOGIST:

A

POPULAR MONTHLY MAGAZINE

OF

NATURAL HISTORY,

AND

JOURNAL FOR RECORDING FACTS AND ANECDOTES

RELATING TO

QUADRUPEDS, BIRDS, REPTILES, FISHES, MOLLUSKS,
INSECTS, WORMS, ZOOPHYTES, &c.

THEIR HABITS, FOOD, RETREATS, OCCASIONAL APPEARANCE,
MIGRATIONS, NESTS AND YOUNG.

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Zoological Miscellany.

Human Fossils from Bruniquel.—MM. Garigou, Martin, and Trutat describe, in 'Comptes Rendus,' two fragments of human jaws discovered in the cavern of Bruniquel (Tarne et Garonne). This cavern is in a Jurassic limestone, and the soil found in it is formed by the superposition of several layers, which the writers examined at a depth of three metres. First was a stalagmite deposit of 22 centimetres; then an osseous breccia 1 m. 48; then black clay beds repeated several times, in the midst of which was a pell-mell of wrought flints of all known shapes; barbed arrow points; bones of carnivores, ruminants and birds, and rounded pebbles. The writers remark that "the reindeer is characteristic of the age of this cavern, and that, bearing in mind the four divisions established by M. Lartet of the quarternary epoch, we see at once that it is to the blind palæontological epoch that we must refer the filling up of this excavation." The two human jaw fragments were found, in the presence of several witnesses, at a depth of about two inches in a bed of clay, containing quantities of charcoal, wrought flints, and bones of ruminants. After various anatomical details, the writers observe:—"Three human jaws are thus referred to the same type, Brachycephalic, although they belong to epochs considerably separated one from the other; that of Aurignac, with which was found the Ursus spelæus; that of Moulin Quignon bedded with Elephas primigenius; and that of Bruniquel lying in the midst of bones of the reindeer." Amongst the bone fragments of this cave was found the humerus of a big bird, on which was roughly sculptured different parts of a fish.—*Intellectual Observer.*

Sponge Spicules.—Dr. Wallich, in a paper on Mineral Deposits in Rhizopods and Sponges in 'Annals of Natural History,' gives a new view of this subject, according to which when a spicule is to be formed, a vacuole of similar shape makes its appearance in the sarcode, and its long axis is traversed by a thread of sarcode, which he calls a 'vacuolar stolon.' The stolon and the walls of the vacuole, each secrete a layer of silex, after which the layer usually diminishes in size, and secretes fresh layers of silex to occupy the vacancy. Layers of silex may, however, in some cases be deposited externally, and to make room for them the walls of the vacuole must recede. The mode of growth he considers different from what takes place in the mineral deposits of rhizopods. —*Id.*

TO CORRESPONDENTS.

The undermentioned papers arrived after the last sheet was printed:—On Coleoptera, *J. A. Power.* Notes on Various Lepidoptera, *Rev. J. Hellins.* Boring Snails; External Parasite of Fish, *Rev. A. M. Norman.*

Communications have also been received from J. Ranson, J. B. Hodgkinson, W. W. Boulton, Col. Newman, Dr. Adcock, H. Pratt, C. B. Wharton, Anthony S. Bradby, C. S. Maurice, Stephen Clogg, Sir Harford Jones Brydges, Bart, T. E. Gunn, R. Tyrer, Henry Reeks, John A. Harvie Brown, David Graham, and W. C. Hewitson.

To Ornithologists.

TO BE DISPOSED OF, by Private Treaty, one of the most perfect Collections of BRITISH BIRDS ever offered for sale, the labours of above half-a-century.

This Collection has been made with peculiar care to illustrate each species under the various plumages, produced by difference of age, sex, and season. All are in excellent preservation.

For particulars apply to Mr. DAVID GRAHAM, Naturalist, Market Street, York. Mr. THOMAS COWTON, Bridlington Quay, Yorkshire, will show the Collection.

Porpoises and Salt Water.—Is there not some error in supposing that salt water is necessary in keeping the porpoise in confinement? (See Zool. 8874). At this moment I cannot state my authority, but somewhere I have read of shoals of a species of porpoise being frequently seen in the Amazon River, far beyond tidal influence. Again I think I have heard of these creatures occurring in the Trent, near Gainsborough, which, if I mistake not, is beyond the reach of salt water. Certainly in the Norwegian fjords I have seen both porpoises and the grampus sporting about where the water was only perceptibly brackish.—*George Norman; Hull, January* 2, 1864.

Supposed Old English Rat.—I think I can explain the occurrence near Beverley of the rat, as recorded by Mr. Boulton (Zool. 8872). The fact of the rat having been killed in a barge on the River Hull, furnishes, in my opinion, the explanation. The barge had, in all probability, brought a cargo of foreign produce from Hull, and the rat along with it. A rat, nearly black in colour, and with an unusually long development of tail, has long been known to me here, occurring as it does very frequently in cargoes from warm climates. Only a fortnight ago I saw a specimen on board a vessel which had brought a cargo of wheat and rosewood from San Francisco. It was in the hold of the vessel, sitting on a log of rosewood, nibbling away at some stray grains of wheat. Some years ago I had a colony of these "interesting foreigners" in my own warehouse. They came among some bundles of cork-wood from Spain. Possibly, after all, it may be the same as the old English rat, now nearly exterminated. It is smaller than the common or Norwegian rat; and, like many other foreigners, lank and apparently ill-conditioned.—*Id.*

Anecdote of a Weasel.—I witnessed yesterday a curious instance of cunning in a weasel. We were all at dinner when the tortoiseshell cat appeared on the lawn carrying a large weasel by the back of the neck. I at once ran out, and made the cat loose her hold; the weasel was alive and struggled to get away, but the cat again seized him by the neck. The weasel, finding that his struggles were useless, ceased to move, and hung like a dead weight in the cat's mouth. The latter then dropped him on the walk, apparently as dead as a stone, and moved away to a little distance. I approached the weasel, who lay on his side perfectly motionless, and, just as I was going to turn him over, I saw him open one eye and take a rapid look round, and in another second he had darted across the lawn and under a thick Acuba. The cat caught sight of him at once and bounded after him. Then followed a most exciting chase. The weasel got between the laurels and the fence on Mr. Forbes' side close by the kitchen door, ran from there to the little gate with the cat after him, then doubled back like a fox and almost went into the kitchen, making the laurels rattle as they rushed through them. Finding no escape at either end of the fence, the weasel made a bold dash across a corner of the lawn, and got very nearly into the row of laurels between the two gates, when the cat sprang upon him, and I thought it was a case of a "kill in the open," as a fox-hunter would say. However, the little weasel fought most pluckily, and for about ten seconds there was a very sharp skirmish. The cat tried to seize him by the neck, and the weasel showed wonderful activity in eluding her grasp. Twice he sprang at her face and tried to seize her, but got knocked down both times, first with a right-hander and then with a left, which the cat most scientifically delivered as he rushed in. Finding, therefore, that he had little chance of winning the fight, the weasel made another bolt, almost running up against me as I stood quite still looking on, and hid himself among some rolls of turf that were heaped up by the new walk. The cat evidently did not hunt by scent, but only like a greyhound, as long as the weasel was in view. She was now quite "at fault," and crept cautiously about, peeping under every bush and shrub, but all to no purpose, as I am glad to say my little friend escaped; and I think he deserved to do so, for the cunning and pluck which he displayed. Whenever the cat seized him or struggled with him, the weasel made a very peculiar kind of screech, and chattering something like one of the small monkeys I have heard at the Gardens.—*J. Edmund Harting, in a letter to Mr. Bond; December* 14, 1863.

Peregrine Falcon and Shorteared Owl near Alton.— A female peregrine falcon was shot at Froyle, about three miles from here, last Monday. Its weight was 2 lbs. 5 oz. I could not get to measure it until skinned, but I believe it to be a very fine one. This is the third I have known shot in this neighbourhood: this one and one of the others are in the Museum at Alton. I have also to inform you of a short-eared owl being taken about two miles from here last week. We every now and then get a specimen of it at this season of the year.—*Philip Crowley; Alton, Hants, December* 19, 1863.

A Honey Buzzard's Nest in the New Forest.— I have been informed that a pair of honey buzzards built a commodious nest in the New Forest this year; but, from the continual watch which was kept on them by the discoverer of the nest, who, I was also told, was offered a guinea each for the unblown eggs, were he so fortunate as to obtain them, no eggs were deposited, which was attributed to their being both males, yet this I very much doubt; at any rate it is a pleasing fact to know that these birds are not yet extinct in this once much-favoured locality.—*Henry Reeks.*

Ring Ouzel near Malton.—Mr. Boulton, who has recently recorded a specimen from Malton (Zool. 8877), rightly supposes that this bird is not common in that neighbourhood. There are no rocks near Malton, consequently this bird is only an accidental or occasional visitor. About ten miles from Malton the picturesque valley of Pickering commences, and among the rocky *débris* which has fallen from the high moorlands above this bird is by no means uncommon.—*George Norman; Hull, January* 2, 1864.

On the Redwing singing in England.—In late numbers of the 'Zoologist' there have appeared several notes on the redwing singing in this country; a fact which, judging from the tenor of the remarks, seems to be doubted. If this is really the case, it will be satisfactory to your correspondents to know that I am able to settle the question from my own personal experience. About the middle of March, when the weather has been fine and warm, I have on many occasions heard the redwing sing, and under circumstances which rendered a mistake impossible. During the spring it was a common custom with my brothers and myself to go in the evening to the neighbouring woods for the purpose of shooting hawks, when they came in to roost: many valuable birds have in this way fallen to our guns, such as the peregrine, merlin, buzzard,—and among multitudes of the common sparrow-hawk, some in very remarkable plumage. Kestrels we never shot at, feeling convinced that the good service they perform in destroying mice more than compensates for any misdeeds of which they may be guilty; indeed, I cannot remember having ever detected a kestrel in any felonious proceeding, save that recorded in the 'Zoologist' of stealing a roasted pigeon from our dinner table. The thousands of redwings and fieldfares which congregated in these woods preparatory to their quitting the country, without doubt formed the great attraction to the birds of prey; and often, very often, while lying in ambush for their enemies, have I been charmed with the concert of this melodious host. I think I shall be within the pale of strict veracity, if I say that I have heard hundreds in full song at the same moment. But perhaps some of your readers may require more positive evidence that this enchanting concert was the actual production of redwings and fieldfares; and on that point also I will endeavour to satisfy them. When on the look-out for hawks, we always placed ourselves against the body of some large tree surrounded by tall underwood, chiefly hazel and ash, and in these bushes I have seen at the same moment many redwings and fieldfares with open bills and distended throats, in the full torrent of song; some occasionally within two or three yards of my head, as I stood motionless at my post. In such close vicinity their plumage was as plainly seen as if I had held them in my hand: there was the clear bright stripe over the eye, and the unmistakeable rufous colour on the sides of the breast; and, though I blush to own it, to make certainty doubly sure, I have shot them in the act of singing. I think this must be sufficient to convince the most sceptical, even the author of the last note on the subject. But I must add a word on the song itself. Except the nightingale, I do not know a more beautiful songster than the redwing: its notes much resemble those of the song thrush, but are fuller, sweeter, and more melodious, many of them in tone approaching those of the blackbird. The song of the fieldfare is much less varied, and not so long sustained; its notes are both louder and coarser, but still it ranks high in the feathered choir.—*A. Matthews; Gumley, Market Harborough, December* 10, 1863.

Redwing singing in England.—While I and my brother were walking in the fields on Saturday, December 12, a beautiful and sunny day, we were surprised to hear from some trees near at hand a low, sweet, mellow, and easy-flowing warble, having somewhat of the character of that of the thrush, but greatly differing from it, and such as we had never heard before. On an accurate examination of the bird with our pocket Dolland, we were perfectly satisfied that it was no other than a redwing (*Turdus iliacus*); it was perched on an outer spray, about three-quarters of the way up a good-sized oak.—*Henry T. Wharton; Willesden Green, December* 14, 1863.

[This note and the preceding are of great interest, but I could wish that all such records should be verified by obtaining the bird itself and sending it here for verification. I shall be excused, I am sure, if I remind my readers that in every instance when this has been done, the record has proved erroneous.—*Edward Newman.*]

Blackbird's Nest on the Ground.—On the 3rd of May, 1862, a blackbird (*Turdus merula*) selected as a site for its nest a hole in the nearly perpendicular side of a ditch, close to a foot-path at Willesden Green; it was very carefully concealed, and overhung by luxuriant grasses. It afterwards contained four eggs, but before they could be hatched the nest was taken. We more than once saw the parent fly away from the hole.—*Charles B. Wharton; Willesden Green.*

[A similar instance is recorded in my 'Birdsnesting,' p. 10.—*Edward Newman.*]

Query on the Robin: some Notes on its Habits.—The suppositions put forward in the pages of the 'Zoologist,' to account for the scarcity of the robin in Britain, seem to me very futile. The popular notion of the young birds killing the old ones extends to Ireland; but it seems too absurd, as well as unnatural, and, like most other popular legends concerning Natural History, is scarcely worthy of a thought.

If the notion had been reversed it would not seem so preposterous, as we have instances of old birds preying on their young among the Falconidæ, and indisputable proof of the young being driven from the haunts of their parents; also among the Gallinæ the old cocks are very destructive to the young of their sex. Cats do eat robins, but surely this would not thin their numbers in any great degree. Robins may die in severe winters, and undoubtedly do; but after mild winters they do not seem more plentiful. The last four winters, in the county of Dublin, have been remarkably mild, yet there is no perceptible increase in their numbers. My answer to the query would be, that the robin migrates: every British species of the family migrates, though the stonechat remains in limited numbers in our southern counties of Ireland during the winter, though let it be distinctly understood not those individuals that breed; they always migrate from this locality, at least, in August, new arrivals appearing in October. This species bears, in this respect, a close analogy to the robin, and equally with this bird might it bear the odium of killing its parents. The robin being more plentiful in summer than winter, clearly proves migration. That it is pugnacious there is no doubt, yet not more so than others of the Sylviadæ, the whitethroat, the blackcap, and the stonechat, (familiar examples), which are most jealous birds of a favourite locality, as is also the robin. That it seeks a fight I do not believe; but when stirred to rivalry by song, or its ground encroached upon, a fight is most probable. Neither does the robin, from choice, seek man's habitation, either in winter or summer; it is as plentiful in the lonely country as near the cottage. Without taking into consideration a lonely country hedge-row in a cultivated district, I will go to the far west of Ireland—to the wilds of Erris, where the eye will not see a tree for miles upon miles, not even a furze-bush to shelter this little warbler, and the month is December, where only marshy bog and heathy mountain meets the eye, yet there the ear of the hardy sportsman is gladdened occasionally by the song of this little pet, as he sits up on a feathery branch of heather. I go back again to the county Dublin,—to Dalkey Island,—on the lonely and rocky coast of which the robin may be seen in winter: but here I never heard it sing—it seems too intent on hiding itself in the crevices of the rocks, not gazing at you with its mellow eye as from the roof of a shed in the farm-yard. In its rocky retreat what cares it for man's habitation, while the sand-flies hybernate in thousands in the cracks of the granite, and the silken huts of spiders are in hundreds; but snow and frost come—then the dung-hill and the warm thatch are welcome—a rafter makes a snugger perch for roosting than the frozen rock. The snow is frozen from the chimney; here he perches and gives forth his wild song—he is aroused by a rival—see how intent he listens; all his soul, I might say, is centred now in his song—nothing disturbs him; there he sits for an hour or more singing, regardless of cold, till a window is opened, some crumbs are laid on the sill; he flies to it because his natural food, insects and berries, are now scarce. The spring has come, and with his mate he builds a nest in the ivied wall, the rafters, the thatch, the hay-rick, the mossy bank, the root of the monarch of the forest,—anywhere he is at home, but he does not feel safe from enemies; materials to match the surrounding objects of his home are always collected for the nest—withered leaves in the woods, moss for the mossy bank, hay for the farm-yard, and stalks to match the gray wall and ivy. Poor little bird! happy would you be if your nest was not taken by ruthless schoolboys, for in Ireland you are not spared.—*H. Blake-Knox; Bartragh, Dalkey, Co. Dublin, January* 22, 1864.

Dun Variety of Robin.—I had sent me, last week, the most perfectly dun-coloured robin I ever saw, shot near Lynn. Its entire plumage is of an uniform dun-colour, much lighter in its shades than I ever saw a specimen presenting before. The beak and legs are much lighter than in the ordinary examples; the eyes were light hazel. It has been my fortunate lot to have examined two or three varieties of this familiar species, and I have in every case particularly observed the tail and plumage of these to present a singular chafed and rubbed appearance, as though their oddity of garb had caused them to become subjected to severe battles—in fact, this was the case of one recorded by myself in a former volume of the 'Zoologist.'—*S. P. Saville, Dover House, Cambridge, January* 5, 1864.

Scarcity of Robins during Winter: Does the Female Migrate?—That there is a scarcity of robins in the winter must be apparent to all observers of nature resident in the country; moreover, it is a subject of great interest to ornithologists, although I have seen no plausible theory advanced to account for it. Naval officers and passengers on board ships frequently record the appearance of migrants *en route* to and from Britain, and, among other birds, nearly invariably mention the robin: this always appeared strange to me, as, when in the country, never a day, either in winter or summer, elapses without my seeing one or more of these familiar little birds. At last a thought struck me that there may be a sexual migration, and, with this supposition in view, I commenced, about a month prior to Christmas, to make a slaughter of robins, solely for the purpose of dissection; and, although I am ashamed to say how many I killed, I can firmly assert that the whole of them proved, on dissection, to be males. I have therefore come to the, I think, very rational conclusion, that the female robin migrates, and that nearly to a bird. Again, the pugnacity of the robin towards its own species in winter would naturally lead one to suppose that the birds were males, or, at any rate, of the same sex; for it is a well-known fact, that animals of the higher orders (man alone, I am sorry to say, excepted) seldom, if ever, quarrel with the opposite sex of their own species. In advancing the above theory I do not wish to be considered dogmatical, but I do wish to call the attention of competent ornithologists to this very interesting subject, for I feel confident that practical observations will be fully repaid.—*Henry Reeks; Manor House, Thruxton, February* 3, 1864.

Note of the occurrence of a pure Albino Hedgesparrow.—Mr. H. French, solicitor of this town, while out enjoying the day partridge-shooting last September, was not a little pleased in adding to his bag a pure white hedgesparrow, not a single feather of its wonted hue being visible; the feet and beak being of a lightish dirty yellow, the eyes of a most complete pink. A white variety of this species is recorded as having been in the collection of the late Dr. Thackery, Provost of King's College, but nevertheless the pure albino is of very uncommon occurrence.—*S. P. Saville; Dover House, Cambridge, January* 5, 1864.

Note on the Lesser Whitethroat's Nest.—For the last four years a pair of lesser whitethroats have regularly built, in the tall hedge of our garden at Willesden Green, at the height of nearly six feet from the ground. It is the lesser whitethroat's usual habit about here to place its nest higher than most of its congeners, excepting sometimes the blackcap. The lesser whitethroat is one of the earliest to arrive of our summer warblers, and usually has its nest completed early in May: last year we found an egg on the 28th April. The common whitethroat, on the contrary, seldom builds till the end of May or June.—*C. B. Wharton; Willesden Green.*

Migration of Goldencrested Wrens.—There is no doubt whatever about this bird arriving on the Yorkshire coast from abroad (see Zool. 8879). After the 12th of October, as regular as clockwork, the first easterly wind brings us large flights of woodcocks from Scandinavia, and these flights are almost invariably preceded by large flocks of goldcrests: so regular, indeed, are these arrivals, that on the first occurrence of an easterly wind after the above-mentioned date, all the gunners on the coast of Holderness turn out, and frequently immense numbers are slaughtered. The largest flights of woodcocks occur when the weather happens to be drizzly. The lighthouse-keeper at Spurn, I have been told, frequently finds large numbers of goldcrests dead under the lights, having killed themselves by flying against the plate-glass. These goldcrests invariably precede the woodcocks.—*G. Norman; Hull, January* 4, 1864.

The Waxwing in Norfolk.—These very beautiful and interesting birds have again paid our shores a visit, and, should the present state of the weather continue, I have no doubt their stay will be of some duration. Their appearance has extended over a considerable radius of ground, records now appearing for Norfolk, Yorkshire, and Scotland. During their last visit, *i. e.* 1849-50, this county (Cambridgeshire) was rather fortunate in producing specimens. I do hope we shall yet have the honour of their presence: as yet I have failed to discover any traces of them, nor can I hear of any of my ornithological friends having been more fortunate. A friend from Norfolk has sent me notice of four having been obtained in that county, *viz.*, male and female shot on the chase, Lynn; another male he says was shot at Titchwell, near Thornham; the fourth, and by no means the least interesting record, is that of a male having been captured alive (also in the vicinity of Lynn), and is now in the possession of the Rev. T. White, head master of the grammar school. I hope to be able to send you something further upon this most deeply interesting capture, should it continue to live. The appearance of this singularly handsome species is at most uncertain periods, but generally its presence is precursory of severe weather, and I think this instance will prove no exception. The most frequent number of wax-like feathers upon the wing of this bird is about four in number, but they occasionally, I believe, reach upon each wing as many as seven or eight; and a friend of mine assures me, in very old examples, these peculiar wax-like appendages are found upon their tails. The years 1810, 1822, 1823, 1827, 1849, and 1850, were particularly notable for the appearance of the waxwing. It will be observed that long intervals, however, are by no means a rule, as to witness 1822 and the succeeding year. Upon the Continent its residences are subject to similar uncertainty.—*Samuel P. Saville; Cambridge.*

A Yellow Sky Lark.—When out shooting with my brother, on the 26th December, our attention was attracted, on putting up a flock of larks, to one of a yellowish colour flying among them. Anxious to preserve so great a curiosity, we marked it down, and eventually succeeded in shooting it. The bird is entirely buff-yellow—the belly, wing, and tail-feathers slightly lighter. On dissection it proved to be a male. My brother has also obtained a sparrow, with the head, belly and rump cream-coloured.—*Richard Tyrer, jun.; Weston Turville. Tring, January* 13, 1864.

Hawfinch at Weston Turville.—At the close of last month I shot a fine hawfinch in our garden: it had made its appearance several times before, and invariably under a yew tree, where it found something to eat—perhaps was swallowing grit. On dissection his crop proved to be empty, but his gizzard was quite full of the kernels of plums or damsons (not sloes), which are very abundant in this neighbourhood, together with a quantity of flint grit: not a single piece of the broken fruit stone, however, could I discover, though I examined the contents of the gizzard very carefully. Perhaps the presence or absence of the fruit stones can be accounted for by the abundance or scarcity of grit in the soil where the bird has been living. I do not know the nature of the soil about Beverley,—perhaps Mr. Boulton will tell us. A few more examples from different parts will decide the question, whether this bird swallows the stones only when it cannot obtain grit in sufficient quantities.—*Richard Tyrer, jun.; Weston Turville, Tring, January* 13, 1864.

Lesser Redpole building in Kent.—On the 18th of May, 1863, we found a lesser redpole's nest at Tunbridge Wells: it was placed about four feet from the ground, in a furze-bush considerably overgrown with a bramble, in a small, unworked, and totally over-grown chalk-pit, on the south side of a hill. The hill was principally surrounded by wood and thicket, but itself meadow land. The nest looked like that of a linnet, but on going to it three days afterwards we were instantly undeceived: the male was singing, or rather twittering, in the small trees close by, and we soon recognized him as a lesser redpole, with whose song in confinement we were well acquainted, as I had lately had one in my possession for some time. This bird of mine had died a few months previously, but not before he had paired with a hen canary; and his only son I have now got. We were further satisfied as to the identity, by the female allowing us to examine her within half a yard of herself, and almost to touch her on the nest. The nest subsequently contained six eggs, exactly agreeing with the description in your 'Birdsnesting': three of these we still possess; the rest we left to the care of the parents. The nest was composed of dead grass and a little moss, and lined with horse-hair and a small quantity of cow's-hair; there were no willow trees near, which may account for this strange lining.—*Charles B. Wharton; Willesden Green.*

The Redwinged Starling in Sussex.—On the 28th of December I obtained a specimen of the redwinged starling (*Sturnus predatorius*, Wilson), which was killed on the 25th, at Sidlesham, Sussex, by a person out blackbird-shooting. It was found in a hedge-row, and not in company with the common starling. I believe it to have been a male, but, as it was shot in the back, I was unable to tell by dissection. The measurements were—length, 8½ inches; extent of wing, 14 inches. Wilson gives 9 in. by 14 in. for the male—perhaps this may include the beak. The plumage was black, with the exception of the red patch on the wing; some of the feathers on the back being slightly edged with brown, also a slight streak of brown behind the eye. The gizzard contained, besides small gravels, some round black seeds, which I am not botanist enough to name; they are precisely the same as some which I took from the gizzard of a chaffinch a few days before. As some persons, on reading this, may doubt the genuineness of the bird, I may mention that I had it, in the flesh, of the person who shot it, and I am well acquainted with a gentleman who saw it shot. What induced it to take so long a trip as it must have done to get from America here I know not, but we have had, this autumn, some severe gales from the west and north-west, and the wind here had been westerly for a week or two before the bird was shot. It was in very good condition, and showed no signs of having been caged. I send you some of the seeds found in the gizzard, perhaps you may know what they are.—*W. Jeffery, jun.; Ratham, Chichester, January* 2, 1864.

The Food of Rooks: Are they so carnivorous as described?—Having been a preserver of these sagacious birds for many years, I must say a few words in answer to

Mr. Reeks (Zool. 8884) and Mr. Cecil Smith (Zool. 8885), who seem to paint them in colours too much like the vulture. I have watched the rooks at all seasons, and seldom have seen them near carrion; but when they were in that situation, it could be plainly seen they were in search of the maggots with which the putrid carcase abounded. Fowls of all sorts eat maggots of every description most eagerly, and gamekeepers often collect them, as well as ants' eggs, to feed young pheasants with. I have inquired of old gamekeepers into the damage done by rooks, and their answers have been invariably that rooks never destroy young birds of any sort. Magpies destroy many young birds; and I can attest that myself, as to young blackbirds, which I have seen killed and commenced to be eaten by these birds, and so do carrion crows. The only damage a very old gamekeeper mentioned to be done by rooks was one of an extraordinary character: in the year 1826, we had the hottest and driest spring and summer in this century; water was so scarce that cattle in many places were obliged to be driven for a mile or two to procure it. This gamekeeper observed some rooks busy near a spot where there were some pheasants' nests, and, on going to examine the spot, he found that the rooks had sucked the whole of the eggs in several nests, no doubt entirely from the fact of being unable to meet with water near, all the ditches and water-courses being dried up. I by no means doubt the statement as to the localities described by the gentlemen who have noticed the rooks to have been attacking carrion, but, in many instances, I have seen carrion crows mistaken for rooks; but if rooks have been inclined to be carnivorous, it may have been through want of food of the right sort, and only a casual thing: they generally feed in the centre of large open fields, and seldom skulk near hedges and close places where carrion abounds. I can verify the fondness of rooks for apples and pears, walnuts, seed corn, ripe wheat and oats, potatoes (both newly-planted and young), cockchafers, and numerous sorts of insects and larvæ and worms. Rooks may also be seen in large flocks feeding on the sea-shore with gulls and jackdaws; but this does not furnish any proof of rooks being so very carnivorous as described by the writers alluded to; and I certainly put these birds down, as they have been described by many close observers, as decidedly granivorous birds. Granivorous fowls are all extremely fond of unhatched young wasps, pulled from the combs: this, I hope, would not be considered a reason for calling them carnivorous, nor would the congregating of the rooks on the sea-shore to pick up the numerous small insects which a high tide may have left. In 1837, a very late cold spring prevented the rooks from feeding their young with the usual food, and numbers of the young died from apparent starvation: this does not look as if the young birds were fed by anything like carrion. —*H. W. Newman; Hillside, Cheltenham, January* 7, 1864.

Defence of the Magpie and Rook.—For some years past my attention has been directed to the wanton destruction of small birds, by means of poisoned grain scattered recklessly about the fields, gardens and lanes, of my part of the country—more especially during the breeding season; and I have, on several occasions, brought the matter fully before the East Kent Natural History Society, and the local Press, and endeavoured to disprove the excess of damage done by birds generally, and to prove that grain, so poisoned, will destroy other life than that for which it is laid out. One morning a gentleman brought me a dead magpie, in very fine plumage, which he had picked up whilst crossing a field, with other birds, and amongst them a partridge. On examining the crop of the magpie, seven grains of poisoned wheat were found, nine wireworms, and about a tablespoonful of beetles of various sizes, and larvæ. The same spring I had a tame magpie, in a large cage on my lawn; a pair of wild birds came down to it daily, and endeavoured to enter the cage, but, as the prisoner could not get out and they could not get in, it terminated by their building a nest and bringing up a brood in a large fir-tree in the garden, and, since then, I have had one or two nests yearly; by this means I have had an opportunity of watching their habits very closely: I also never allow, in my garden, a nest of any bird to be disturbed; so that yearly I have the nightingale, whitethroat, wren, robin, missel thrush, song thrush, blackbird, tomtit, longtailed tit, greenfinch, chaffinch, yellowhammer, starling, hedgesparrow, house sparrow, magpie, &c.; and on my lawn I have yearly brought up pheasants and partridges. I have, moreover, inserted earthenware pipes in the walls, to induce the birds to remain with me and build; by this means I have been enabled to watch over them most satisfactorily during incubation, to feed them on their nests, and even on one occasion to move the nest, in a rose bush, without the old bird ultimately forsaking it. Now this has been done by rendering the birds familiar to my approach and voice. Having, then, watched over many nests for years, I am prepared to say that the magpie is not so destructive to eggs and young birds as is generally believed, for I have not missed one bird, or one egg from any nest to which my especial attention has been directed; therefore, although I do not say the magpie will not steal a young bird, or egg, or a few grains of wheat when exposed to view, what I do maintain is founded upon close observation, that the magpie is not only one of our handsomest and most interesting birds, but that he is one our greatest benefactors; for let any one who has the opportunity examine the surface of the ground under a magpie's nest, and he will be astonished to find numerous pellets, about three-quarters of an inch long, and nearly half an inch in diameter, which have been cast up from the crop, and composed almost entirely of the undigested hard wing-cases of small beetles —a class of insects injurious both in the imago and larva state: many of these pellets I have placed before the Natural History Society. Again, I am prepared to state that I have never found any portion of the eggs of other birds under the trees where the magpies build in my garden. I have found four heads of mice, and once that of a young mole; and although I am aware that the rook, magpie, &c., are what we may almost term omnivorous, under certain circumstances, still the immense amount of good these birds do is incalculable, for they are in general insectivorous,—that is, they feed upon what is usually termed grubs, the larvæ of beetles and other insects so highly injurious to our crops. Again, with regard to the rook, two years since when returning from Ramsgate I beheld a piteous sight—nine rooks were lying dead in a field, and several more were dying, all from the effect of poisoned grain. Some years since a friend of mine, in Bedfordshire, imagined that his magnificent rookery was an evil to him, and that the birds did him considerable damage; in a thoughtless moment he sent his order forth, and every engine was employed to destroy the poor birds; this was so effectually done, that in a very short time but a poor wreck was left. The next year not a bird was allowed to build, but a fearful day of reckoning came; for the third year the wireworm, the larva of the cockchaffer, and other crop-destroying insects, abounded to an alarming extent, and then, too late, his eyes were opened to the folly he had committed, and it was years before he could restore his rookery. Now, with all these birds in my garden, if the theory were correct of the great harm they do, I should not have been able to preserve any fruit, but the contrary has been the case. I have had moderate crops of most things, and have had nearly always some to spare; a net cast over my strawberry-beds and bushes, when the fruit is ripening, is my simple safeguard, and answers admirably; and I am always cheered by the warbling of some little pet, from the nightingale in the spring to the robin in the winter. I would here remark, that it is easy to keep birds destructive to our crops within due compass without the dangerous use of poisoned grain, which will most assuredly kill every moderate-sized animal that may by any chance be allured to pick up the scattered seed; the songster and the sparrow, the partridge and the pheasant, and, worse than all, the poor skylark, may by its subtle aid be destroyed by hundreds, and sent through the poulterer to our tables as an article of food. Who can foresee what amount of misery may arise even from this act alone? In conclusion I would call the farmer's attention to the comparison of the damage done by birds to that perpetrated by rats; and, instead of sparrow clubs, let rat clubs be substituted and established in every town and village, and the trifling injury done by the feathered race would be speedily saved by clean ricks, undamaged homesteads, and a full return of the grain stored both in barn and rick.—*C. J. Cox; January*, 1864.

The Spotted Woodpecker.—On the 10th I was fortunate enough to have been able to watch, for a short time, a greater spotted woodpecker, but it evidently knew I was criticising it, for its manners were unnatural and constrained. These birds are seldom met with here, and they rarely give one an opportunity to notice their habits. In this case the bird alighted on the branch of a tree over my head, and moved quickly about in a state of great excitement, at intervals altering its peculiar cry: as long as it was visible I watched it carefully, and, had it not been somewhat foggy, I might have kept sight of it for a long time, as it took its departure gradually, flying from tree to tree.—*C. J. Maurice; Mickelmarsh Rectory, Romsey, January* 16, 1864.

Kingfishers on the Carron in Stirlingshire.—This beautiful bird, three years ago, was very common on the banks of the Carron; but I am sorry to say that now only two pairs remain. Last year there were three pairs, but one pair out of the three has since disappeared. Last spring I knew two nests; one of these—the contents of which (seven eggs) I took for my collection—was placed about ten feet above the surface of the water in a sand-bank, and the other was at least thirty feet above the surface, also in a sand-bank, and perfectly safe from molestation from almost any bird-nester. In this last I fully expected the old bird would bring out her young, but "alas, for human expectations!" I was doomed to disappointment. The sand above the nest slipped down, covering up the entrance of the hole, and the poor bird on her eggs was buried alive; I hope, however, the remaining two pairs will be more successful this season in bringing out their young, otherwise I fear they bid fairly to be totally exterminated in this district.—*John A. Harvie Brown; Dunipace House, Falkirk, January* 3, 1864.

Abundance of Kingfishers in Norfolk.—Upwards of forty specimens of the kingfisher have been shot in this neighbourhood during the past three weeks, and several have likewise been picked up completely starved out; most of the specimens being in very good plumage.—*T. E. Gunn; Norwich, January* 16, 1864.—*In 'Corresponding Naturalist's Circular.'*

[A still larger number have been killed or picked up dead in the Woolwich Marshes and the fens of Lincolnshire, but much earlier in the winter season, and before any starvation could have taken place from the freezing of streams: indeed, October and November were the months when these birds were most abundant.—*Edward Newman.*]

Nesting of the Kingfisher.—In answer to the question of Mr. Pigott (Zool. 8886), respecting the nesting of the kingfisher, I reply that I certainly never found anything solid or firm in its burrow. I have found nothing but what I stated in my former communication (Zool. 8818), *viz.*, "a few fish-bones and scales." I once swept out, with my hand, enough to half fill a tea-saucer; there were six eggs in the burrow. Whenever I have found young, the burrow has been in a very wet, fetid state, and I should scarcely have thought anything could have hardened in such a place.—*Charles Stubbs; Henley-on-Thames, January* 18, 1864.

The late Stay of Swallows.—Swallows were here in considerable numbers up to the middle of November, when we lost sight of them; but on the 3rd of December I again saw them (I believe both swallows and martins), to the number of a dozen or more, hawking for flies over the rosery, which is a sheltered spot, and they were our visitors in smaller numbers up to the 7th.—*Alfred Wheeler; Devon Rosery, Torquay, December* 16, 1863.

[I have the most unexceptionable evidence of martins being observed up to the end of the year; swallows are often mentioned, but I think martins are generally intended.—*Edward Newman.*]

Notes on the Swallow Tribe, their Stay and Departure.—On November 30th, 1864, I saw a house martin flying about quite strong and active. The day was very bright and sunny, with a cold easterly wind. I have never before observed any of the swallow tribe later than November 23rd. For some years past I have seen sand martins here from the 20th to the 23rd March, and swifts from the 20th to the 29th April; the latest date at which I have seen swifts is September 6th, 1852. The fact that in this neighbourhood we have some members of the swallow family for eight months out of the twelve is attributable, I imagine, to the abundance of food and shelter which the valley of the Abon affords, both early and late in the year as well as all through the summer.—*T. Beaven Rake; Fordingbridge, January* 5, 1864.

Whitebellied Swift near Manchester.—At a meeting of the Manchester Natural History Club, held the 26th October, 1863, a stuffed specimen of alpine swift was lent for exhibition by Mr. C. R. Jones; it was taken during service in St. Mary's Church, Hulme, Manchester, on Sunday, October 18th. It had been observed since the previous Friday, and on Sunday while flying about it suddenly fell and was taken up dead.—*Communicated by Dr. Alcock.*

The Willow Grouse and the Red Grouse.—I was much surprised, on reading Mr. Norman's very interesting notes on the Fauna of Norway, to find that he still maintains the opinion that the willow grouse and red grouse are identical. Certainly he cannot have read the very able remarks on this subject in the 'Field,' of July 18th, 1863, from the pen of Mr. Wheelwright, than whom no man has had greater facilities for studying the economy of these birds. By the kindness of the Editor I will here quote part of Mr. Wheelwright's observations, "Although perfectly willing to admit Professors Rasch and Esmark to be, as they undoubtedly are, great authorities on the Norwegian Fauna, I consider it very probable that neither of them is conversant with the habits of the red grouse of Scotland in its native home; and I differ entirely from their opinions, that 'the Norwegian grouse is only a variety of the Scotch; their habits are similar, and the difference of plumage is solely owing to climatic influences.' I contend that their habits are perfectly dissimilar, and, without dwelling too much on the difference of plumage as a mark of specific distinction, I cannot help remarking that I never yet saw a red grouse nearly so light in colour during the summer as the willow grouse; and even allowing that the seasonal change in the winter may be owing to climatic influence, this is hardly a reason why the wing primaries of the willow grouse should be white at all seasons, and that the belly in the summer is always much lighter than the back; in fact, often pure white. I will now, however, ask any one conversant with the habits of the red grouse, whether he ever observed one perch in a tree? did he ever find a nest in the forest? or did he ever know the red grouse, even accidentally, frequent the small birch, willow, or fir forests which lie remote from the moors? In all these particulars the willow grouse differs from the red grouse, and in so great a degree that you never, by any chance (at least I never did), find the willow grouse on the open moors or fells, never higher than the willow and birch bushes afford them a good shelter. And I may notice another great difference in the habits of the two birds. I have always, in August and September, found that the red grouse are partial to dry situations, whereas at this season of the year the willow grouse invariably select the moistest places they can find—small belts of willow bushes by the sides of forest streams, often on wet woodland mosses or morasses, but never out of covert; and I consider the name of willow grouse most appropriate. I still maintain my original opinion, that although there may be a slight resemblance between the willow grouse and red grouse in summer plumage (and this resemblance is very slight), here it ends. * * * I wish (if we are not to consider such striking differences in the habits of life in two birds of the same family as I have just pointed out are not to justify us in considering them as two distinct species) some one or other of your more learned readers would tell us in plain English what constitutes the difference between a species and a variety. Surely it is scarcely consistent for us to set down the willow grouse as nothing but a variety of the red grouse, when we retain in our Faunas as distinct species the thrush nightingale, the lesser whitethroat, the willow warbler, the pied wagtail, the grayheaded yellow wagtail, the tree pipit, the short-toed lark, the firecrested wren, the lesser redpole, the tree sparrow, the parrot crossbill, and some other birds which I could mention. In all those which I have named the differences existing between them and their nearest relations in the same family are no more striking than between the willow and the red grouse; in fact, in many not nearly so striking, for their habits of life are in nearly every case the same, and yet we admit these as undoubted species (with, perhaps, the exception of the wagtails), while at the same time we wish to make two birds whose habits of life are so totally at variance with each other, as one and the same species." Dr. Bree, in his beautiful work on the 'Birds of Europe not observed in the British Isles,' says, "In the present day it is more difficult than ever to define the character of species." Grant says that "species-mongers" have been destroyed for ever by the all-powerful wand of Mr. Darwin. I for one, however, refuse to submit to a dogma of this kind, and will take the liberty of considering the Tetrao Saliceti as a species perfectly distinct from that of T. scoticus. Its affinities are more with the ptarmigan than with the red grouse, but it is distinct from both. Again Mr. Norman says (alluding to the eggs of the willow grouse in the possession of Lord Garvegh) "perhaps his lordship would allow these to be examined, and by this means tend to clear up this disputed question." Now, in my humble opinion, nothing tends to mislead so much as the eggs of closely allied species; for instance, what would Mr. N. say to calling the blackbird (taking that bird as the normal type), the ring ousel, the fieldfare and the redwing, all Turdus merula? and yet the eggs of these birds assimilate so closely that not even our best oologists are able to specifically separate them, when any quantity of each species is intermixed. And again, who could specifically determine Larus fuscus from L. argentatus by examining their eggs? But to come nearer the question under consideration, could Mr. Norman separate the eggs of the ptarmigan, red grouse and willow grouse, if several of each species were thrown promiscously together? I certainly think not, and yet by this means Mr. N. supposes the "disputed question" may be settled. Further on in the "Notes," and speaking of the redwing, Mr. Norman says, "Several times nests were found closely resembling those of the song thrush, with particles of blue eggs, undistinguishable from those of the thrush: these were, in all probability, nests of the redwing." I have certainly never seen the nest and eggs of the redwing *in situ* in the forests of Norway, but I have examined dozens of eggs, said to be those of the redwing, and which were, to me at least, undistinguishable from eggs of the blackbird, except perhaps being slightly smaller. Mr. Hewitson, the best authority on British birds' eggs, also figures it resembling the blackbird's.—*Henry Reeks; Manor House, Thruxton, January* 4, 1864.

[My valued correspondent Mr. Reeks approaches the grouse question as though it were recently imported into the pages of the 'Zoologist.' This he will find not the case; see Zool. 6209, 6242, 6264—6266. Mr. Wheelwright's opinion, cited by Mr. Reeks, is that of a sportsman rather than of a naturalist; and I think also it can only be cited as an individual opinion, not as settling the question; *that* will require far more research than the "Old Bushman" has brought to bear on this difficult question.—*Edward Newman.*]

Pallas' Sand Grouse in Norfolk and Suffolk.—Through the kindness of Mr. Southwell, of Fakenham, I am able to announce what I believe to be positively the last appearance of the sand grouse in Norfolk for the season of 1863. Mr. Dodman, of Titchwell, near Lynn, in a letter to Mr. Southwell, says, "The time of this sand grouse being procured was about the last week or end of November. From what I could learn it was a male bird. It was shot on the salt marsh, a different locality to that where all the other birds were obtained in this district, which were found on the Marram, or sand-hills; but this may be attributable to the bird having been disturbed from the latter during the morning previous to being found in the marshes." This bird was killed at Holme, near Hunstanton, where several others had been procured during the summer; indeed, many have remained about those sand-hills, which are more or less preserved, from their first appearance in the county, and here, if the females did nest at all, it is quite possible they might have done so, without being observed. The only other late examples, in this district, are thus referred to by Mr. Hele, in the 'Field' of November 28th, 1863:—"A pair were seen by Colonel Thelusson at Thorpe (Suffolk) one day last week."—*Henry Stevenson; Norwich, January* 22, 1864.

Pallas' Sand Grouse in January.—The extraordinary migration of Pallas' sand grouse into these islands, during the early part of last summer, was chronicled from almost every county; so many had been seen, so many shot, and so many preserved. From that time to the present I believe they have not been noticed anywhere, and have probably been forgotten by the great majority of the public: the 'Zoologist' catalogued these occurrences as they were observed by its contributors, and also those communicated to newspapers and periodicals, and with few remarks the interesting visitor disappeared from the public gaze. Why? Did it leave our shores as suddenly and unexpectedly as it made its appearance, of its own free will? or was it hunted down and extirpated? or has it gone back to where it came from, to tell of the barbarous treatment it received? Many doubtless left, but not all: there are one or two stragglers still here. One specimen was picked up by a farm-labourer in the parish of Upper Kilcot, towards the close of the late frost, about the second week in January: it was found lying under a stone wall in a wheat-field, and had evidently been starved to death, as the bird was in a miserably thin condition: it was taken to Mr. R. B. Hall, of Alderley, who has forwarded it to Leadbeater for preservation. It had probably been dead some two or three days when found, as the head, on one side near the eye, had been slightly gnawed by vermin, but the plumage was in other respects good. The man who found it was questioned as to whether there were any more about, and he replied that he had seen two more, live birds, in the same neighbourhood, exactly similar in colour and size, that when approached they rose with a shrill whistle and fled very fast close to the ground, skimming along much like a hawk, and were strong on the wing. I do not think there is any reason to doubt that these were two specimens which had survived the severe weather which ushered in the new year. Gloucestershire was one of the counties which did *not* contribute its quota of information at the time of the irruption of the sand grouse (at least I am not aware that it did); but for all that I feel quite confident, the more so now, that there has been a flock of these birds in this neighbourhood throughout the whole of the late summer and autumn. I told you when I was last in town that what first gave rise to this supposition was one of my men, driving a little distance out of the town, put up, as he said, a large flock of "doves," more than ever he had seen before, that they shot across the road, and fled down towards a stone quarry some distance off; and one or two birds of the same description have been seen since then about the same place.—*V. R. Perkins; Wootton-under-Edge, February* 9, 1864.

Pallas' Sand Grouse in Devonshire.—On the 11th of December a gamekeeper at Heanton Court, near Barnstaple, shot a Pallas' sand grouse. The specimen was a female, old and in very good condition: it measured 14½ inches in length, and in expanse of wing from tip to tip 24 inches. In colour it was beautifully mottled with black and buff, and underneath the throat was a narrow dark band, and a large dark chesnut patch under the vent and part of the breast; the quill-feathers and the beak were of a pale bluish or ash-colour; the eyes were dark hazel. Its weight was 9½ ounces. It was stuffed by Mr. Fraine, High Street, Barnstaple.—*J. L. Langdon Fulford; Woodbury, Exeter.*

Pallas' Sand Grouse near Barnstaple.—A few days before Christmas the keeper of Mr. Williams, of Heanton Court, about three miles from Barnstaple, killed a specimen of Pallas' sand grouse. Only this single bird, which was a female, was seen.—*Murray A. Mathews; Weston-super-Mare, January* 8, 1864.

Pallas' Sand Grouse in Cheshire.—Having seen a specimen of Pallas' sand grouse (*Syrrhaptes paradoxus*), which was shot about four miles east of this town, on the 28th of November, I have thought it as well to send a notice of it to the 'Zoologist,' as showing the wide distribution of these persecuted little strangers. The person who received it for the purpose of mounting did not examine it to ascertain its sex, but from previous notices I think it is a male. The centre tail-feathers measured 3⅛ inches beyond those next to them. I do not think it so certain as Mr. Sinclair (Zool. 8690) and Captain Hadfield (Zool. 8770) suppose that these birds would not breed in Great Britain. According to Mr. Sinclair's statement, the birds he killed were quite plump; this would show that the food they found was suitable. Captain Hadfield's question, "Would they be allowed to lay an egg?" suggests the most probable reason why they are not likely to breed here. It might be asked, Where was the common pheasant brought from? — *James Cooper; Museum, Warrington, December* 26, 1863.

Pallas' Sand Grouse in Scotland.—A fine male specimen of the sand grouse has been obtained in the neighbourhood of Lossiemouth. It was struck down by a hawk, and was just on the point of being disfigured, when it was rescued by a person who had seen the attack. The bird is now preserved, and is to be sent to the Elgin Museum. The specimen was plump and in good condition. It is very difficult to say what is the cause of this northern migration. The sand grouse is a native of the dry sandy deserts of Southern Tartary, and is rarely seen in the cultivated parts of the country. The question may arise, Is the bird a regular summer visitant of Moray? If wastes of sand are its favourite habitat, we have plenty of that description extending along the shores of the Firth; and it is evident that the bird has been in this country for some time, otherwise the labour in so long a flight would have reduced it to a mere skeleton. We expect to hear soon of the Tartary grouse breeding on our shores. Our summer temperature is not too low for that purpose, especially in the extensive tracts of hot dry sand which border the Firth.—*Banffshire Journal* [no date].

Pallas' Sand Grouse at Dornoch.—On the afternoon of the 5th of June, 1863, while riding along the edge of the sandy bent-hills which form the south-eastern corner of the county of Sutherland, and where, at this season of the year, there is a breeding place of terns (*Sterna hirundo*), my attention was attracted by a number of these birds flying about in a noisy and excited manner, and swooping down upon what I at first conjectured would turn out to be a weasel or other unwelcome intruder. On going up to the spot, I saw a bird, which, as I approached, at first crouched down, but then flew up, with a harsh, grating cry, and after a short but elegant and very rapid flight, during which it was pursued by the terns, it alighted not far from where I had started it. Going home immediately for a gun, I was fortunate enough to fall in with it again, and shot it. From a plate I had previously seen, I knew it was a sand grouse, and believing this to be its first occurrence in Scotland, I sent the bird to Macleay, bird-stuffer, Inverness, for preservation, along with a short description of it, which appeared in the 'Inverness Courier' of the 11th of June. I had consequently no opportunity of examining the contents of its stomach, or of making any obervations of its structure. The bird was a solitary male, and in good plumage, though, when shot, the upper parts were somewhat soiled with the chalky excretions squirted out upon it by the terns, a means of offence frequently adopted by these birds, though I am not aware that it has been generally noticed by ornithologists. Although I have frequently looked for other specimens of the sand grouse on the same ground, I have never been able to fall in with more. I may mention, however, that at Brora, about fifteen miles directly north, on the 1st of June, 1863, I saw in a field of young corn a flock of seven birds, which attracted my attention at the time as being somewhat unlike golden plovers, which I then fancied them to be, but which I am now convinced must have been sand grouse, and very probably was the same flock which soon afterwards appeared in Caithness, and supplied at least one specimen to that county. The male bird shot by me, as stated above, is now in my possession. —*Thomas Mackenzie; Dornoch, January* 14, 1864.

The Bittern shot near Beverley.—On the 4th of January, 1864, a splendid mature female of this bird, now so rare in the East Riding, was brought to me. It had been shot by Mr. Denison, of Beverley, on the River Hull, a few miles above the town. No other specimen was seen, or has since been heard of in the neighbourhood. From twenty to thirty years ago, before sheep farming and turnip cultivation had worked their wonders on the "Wolds," and even in the "Carrs" of this Riding, the bittern used to be of common occurrence; so much so, indeed, that a farm-house situated on a particular bend of the river, known as Eske, was formerly called "Butterbump Hall," from the continuous booming of these birds which lived around it. It is now exactly fourteen years since a specimen of this bird has been seen on our river or in our neighbourhood. The specimen I allude to was stuffed, and still belongs to the man who shot it, Mr. James Runton, of the Leven Carr, near Beverley. I dissected my specimen, and was much struck by certain facts thus revealed. The bird was loaded with fat, and yet there was no food in the stomach, with the exception of a very small beetle and a little confervoid weed: thus I infer (as the specimen was shot about mid-day) that the digestion, as in the snipe, is very rapidly completed, for the confervoid remains had probably been swallowed *with* the last food taken, and not *as* food. The small beetle was most probably entangled in the weed, and taken unconsciously, being too small a prey to tempt so large a bird singly. I may here refer to a remark I made on my dissection of Scolopax major (Zool. 8890). I was astonished to find the gizzard containing seeds and vegetable matters only. The most probable explanation of this, I think, must be, that such ingesta are swallowed by the Grallatores inadvertently *with* their food, which is rapidly digested and passes from the stomach for the requirements of assimilation more speedily than the useless, or almost useless, matters swallowed at the same time. Having remarked on its contents, I must now describe what struck me as the great peculiarity of the stomach itself, for this bird has a *true stomach*, similar, so far as appearances are concerned, in all essential parts and powers, to that of an animal, and only resembling in one respect, and that very slightly, the ordinary gizzard of a bird. The stomach is of a more or less oval form, and is suspended, like a bag, in the body of the bird: it is narrowest at the cardiac or œsophageal end, gradually dilating towards the opposite, or pyloric end; at the pyloric extremity the organ dilates into a somewhat considerable pouch, capable of containing a quantity of food, and the capacity of the organ is also further increased by a certain amount of elasticity in the walls themselves. The walls of the stomach are very muscular, in proportion to the size of the organ, and in this respect only does it somewhat resemble the ordinary gizzard of birds. Externally is an arrangement of longitudinal muscular fibres, interlaced with others of either spiral or circular direction: this layer is thin. In the centre is a great thickness of muscular tissue arranged in bundles side by side, which take a circular direction, embracing the circumference of the organ: when cut across, these bundles in their appearance remind one of a piece of "crimped skate," more than anything else I know. Internally to this layer lie the mucous digesting membranes, with their glands, &c., and the surface presented is precisely similar to the internal digesting surface of the stomach of any ordinary mammal. The duodenum, or first portion of bowel, is also highly organized and provided with glands and a villous surface. As might be expected, in conjunction with such a highly organized stomach, evidently digesting, rather than merely triturating its contents, after the manner of most birds, I found a lengthened and complicated intestine. The intestine was in the diameter of its cylinder, very narrow, but it was of remarkable length, and in consequence of this circumstance, as well as to economise space, was closely convoluted on itself, coil upon coil. The length from pylorus to anus was five and a half feet. I have preserved both the stomach and intestines, in spirit, should any of your correspondents desire to inspect or still further investigate their physiological peculiarities.—*W. W. Boulton; Beverley, January* 14, 1864.

Bitterns near Chichester.—On the 8th instant a bittern (*Ardea stellaris*) was shot at Fishbourne, and, about the same time, another at or near Lavant, both within a few miles of Chichester. The former was brought to me soon after it was shot, and is now in my collection: it is a male, and I think a very good specimen. The stomach contained the remains of a flat-fish, some sea-weed (probably swallowed with the fish), and a hard pellet of the fur of some animal, apparently that of the water-rat and shrew mixed: there were also a few feathers in the stomach. Does the bittern *throw up* pellets of the fur of those animals which it eats.—*W. Jeffrey, jun.; Ratham, Chichester, January* 19, 1864.

Bittern in Kent.—An extremely fine male specimen of the bittern was killed last week at Orpington, in Kent.—*Edward Newman.*

Ruff at Weston-super-Mare.—On the 6th of this month a specimen of the ruff was shot on the sands near this place.—*Murray A. Mathews; Weston-super-Mare, January* 8, 1864.

Spotted Rail near Beverley.—I have previously reported the numbers of this local bird which occur in this neighbourhood. During the year 1863 no less than sixteen individuals of this species were killed or captured alive on the River Hull, to my certain knowledge. Mr. Hurd, of Beverley,—a poor man, but one on whose word I can thoroughly rely,—tells me he has shot certainly not less than ten other specimens, and he could be sure the number was considerably beyond ten: he used them all for the table, finding them excellent eating. Hurd also states that he has seen many more that he failed in securing on different occasions: twice his dog caught this bird alive, and Hurd brought them home living: he could not mistake the species, for he knows both the moorhen and water rail, the latter bird being decidedly rarer than the spotted rail in this neighbourhood. One of Hurd's neighbours, a "gun man" tells me that what Hurd states is perfectly correct, as he has himself seen more than the stated number of spotted rails brought home by him. Mr. William Holmes, farmer, of Arram, near Beverley, has shot three spotted rails during the last summer and autumn, and Mr. Simpson, of the Loch House, also three specimens of this bird. These individuals have each of them seen other specimens, but have failed in bagging them, the birds being difficult to rise. This makes a total of thirty-two specimens in all captured, besides what have been seen. The summer and autumn seem to be those periods of each year during which the spotted rail visits this locality. Next season I purpose doing my best to secure the nest and eggs, so convinced am I of their breeding amongst the sedges and on the marshy flats that occur here and there along our river banks.—*W. W. Boulton; Beverley, January* 22, 1864.

The Purple Gallinule in Scotland.—At a Meeting of the Natural History Society of Glasgow [no date], Dr. Dewar exhibited a specimen of the purple gallinule (*Porphyrio hyacinthinus*),—a species which has not yet been recorded as British,—shot in the neighbourhood of Campbeltown. The present example, however, bore no traces of having been in confinement; and, as the bird is found abundantly in many parts of Europe, its occasional occurrence in this country should excite less surprise than that of other birds whose geographical range is not so extensive.—*Edward Newman.*

Bewick's Swan in Derbyshire.—I have just seen a very fine adult male of Cygnus minor in the shop of Mr. John Cook, birdstuffer, Market Place, Derby. It was shot on the 18th instant, on the Trent, at Newton-Solney, near Burton-on-Trent, by

Mr. J. A. Smallwood, of The Rock, Newton Solney. When killed it was in company with a pair of mute swans (*C. olor*). It weighed 11 lbs. The specimen has been most admirably preserved by Mr. Cook.—*H. Harpur Crewe; The Rectory, Breadsall, Derby, January* 22, 1864.

Bewick's Swan on the Humber, near Patrington.—On the 16th instant a very fine old male of this noble and graceful bird was shot near Patrington, in the East Riding of Yorkshire, by Mr. Pickering, of that town: it is now added to my collection. Several flocks of the wild swan, both Cygnus musicus and C. minor, have been seen in or flying over this locality, and one was shot a few days ago by Mr. W. Woodhouse, farmer, near the lighthouse at Flamborough.—*W. W. Boulton; Beverley, January* 21, 1864.

Bewick's Swan near Woburn.—During the present week three wild swans have been procured within a mile of Woburn: they are of very rare occurrence in this neighbourhood. One has been sent to me: they are Bewick's swan.—*C. Hervey Smith; Aspley Guise, January* 23, 1864.

Gadwall Duck near St. Austell, Cornwall.—The gadwall is a rare duck in the West of England. A male specimen, in fine plumage, was killed last week in a field near St. Austell.—*Edward Hearle Rodd; Penzance, February* 11, 1864.

American Wigeon in Essex.—I shot on the Essex coast, last Saturday, a beautiful female specimen of the American wigeon.—*Samuel Howell Carter, Marsh Lane, Tottenham, in 'Field' newspaper.*

[The claim of this bird to a place in the British list is very questionable: the first supposed specimen was bought in Leadenhall Market; the second record was never substantiated by the production of the specimen.—*Edward Newman.*]

The Velvet Scoter off the Sussex Coast.—A velvet scoter, a female, was shot near Selsey, about the end of November, 1863, and is now in the Chichester Museum. The general plumage above was rusty brown; under, speckled; a white spot behind and rather below the eye. This is a rare bird in Sussex.—*W. Jeffrey, jun.*

The Tufted Duck near Romsey.—The tufted duck, which is seldom met with here, except in severe weather, has been unusually plentiful during the late frosts. I have secured three fine specimens, one drake and two ducks. I had hoped, should the cold weather have continued, to have made acquaintance with many strangers whose visits are worth recording. A large duck-preserve belonging to Lady Mill, situated in a most inviting position on the banks of the River Ust has been abundantly stocked with wild fowl of all descriptions, but, strange to say, no geese have been seen, as is usually the case in such hard weather.—*C. J. Maurice; Micklemarsh Rectory, Romsey, January* 11, 1863.

Smews shot in Yorkshire.—On the 9th instant a fine old female smew (*Mergus albellus*), in fine winter plumage, was brought to me: it had been shot by John Rudd, of Ellerker, on a drain between the village of Ellerker and the Humber, and about seven miles from Beverley. On the 16th instant an old male smew, in perfect winter plumage, was sent, in the flesh, to me by Mr. George Wright, of York: it had been shot on the River Derwent, at Elvington, near York, by Mr. John Bowman or Mr. George Danmell, who were out wild-duck shooting. Mr. Wright, who sent me this bird, tells me he has had no less than three old male specimens of the smew in full winter plumage, and that it is thirty years since he saw one in the flesh before. When opened my specimen of the male smew had no less than five small roach in his stomach, varying from three to five inches in length.—*W. W. Boulton; Beverley, January* 21, 1864.

Goosander near the Lizard.—The goosander at uncertain intervals makes its appearance on our coast. The few that have come under my notice have all been in the "dun diver" plumage, which, both in the female and immature states of plumage of the goosander and redbreasted merganser, is very nearly alike. I have had a strong impression that this plumage is assumed more generally than is supposed after the autumnal moult by old male birds; but I have just seen a very beautiful specimen of an adult male, in its full maroon-coloured plumage and head crest, which was shot near the Lizard, and forwarded for preservation to Mr. Vingoe.—*Edward Hearle Rodd; Penzance, January* 20, 1864.

The Goosander near Richmond, Yorkshire.—I had brought to me, on the 9th of January, a very fine specimen of the goosander (*Mergus merganser*), which is considered to be of very rare occurrence in this part of Yorkshire: the bird was a male in the very finest adult plumage, with beautiful crest, and deep buff-salmon colour underneath: it was, in company with another, on the wing at the time, but the man was not so fortunate as to bring down the pair. With the exception of a young male, or an old female (I cannot say which, for I did not set it up), some seven or eight years since, this is the only instance that I can remember of its being obtained here for at least twenty years. My specimen was shot on the River Swale, not more than two miles from here. I bought it of the person who shot it. I also had sent me for preservation another full-plumaged male goosander, shot on the Swale, in this immediate neighbourhood, by the keeper of Mr. R. M. Jaques, of Easby Abbey: the bird under notice, when brought to land by the retriever, had a barbel, 12 inches long, protruding out of its mouth, not in the least mutilated. In July, 1862, I bought a fine osprey, which was shot over the same pool that the goosander was on.—*W. J. Millegan; Richmond, Yorkshire, February* 10, 1864.

Goosanders on the River Hull, near Beverley.—On the 12th instant a female of the goosander (*Mergus merganser*) was shot and brought to me by Mr. W. Holmes, farmer, of Arram, near Beverley: it was shot on the River Hull, two or three miles above Beverley. On the 15th instant a splendid old male goosander was shot on the River Hull, close to the Hull Bridge, Beverley, by Jonathan Gray, of Hull Bridge. This is the only specimen I have ever seen of the male goosander in full plumage, shot near Beverley, although two or three immature specimens are generally shot each winter on our rivers.—*W. W. Boulton; Beverley, January* 21, 1864.

Scarcity of the Redthroated Diver and plenty of the Great Northern Diver in Dublin Bay.—The great northern diver (*Colymbus glacialis*) has been unusually plentiful this winter in Dublin Bay, and the redthroated diver (*C. septentrionalis*) very scarce; about, on an average, fifty to one. The redthroated diver, in other years, is a most abundant species.—*H. Blake-Knox; Dalkey, Co. Dublin, January* 25, 1864.

The Little Auk near Beverley.—Having observed several notices of this truly oceanic bird, captured some distance inland, and which have appeared to create considerable interest amongst the readers of the 'Field' newspaper, I thought that the following capture might not prove uninteresting to some of your readers. During the autumn of 1861 two specimens of this bird were shot on the River Hull, above Beverley; one late in October, and the other on the 9th of November, of that year: they were both brought to me, and are now in my collection. I did not dissect them, and cannot therefore be certain of their sex. It was rather remarkable that the weather, both previous to and at the time of their capture, was unusually mild and calm. The distance from the sea, at the point where they were shot, would be at least from seven to eight miles or more, and between twenty and thirty miles from the nearest point where these birds are usually met with.—*W. W. Boulton.*

Razorbill at Lewes.—A very fine specimen of the razorbill was shot in the Lewes Levels, by Mr. Thomas J. Jenner, in January last, during the hard weather.—*E. Jenner; West Street, Lewes.*

Abundance of Wild Fowl in Lincolnshire.—On the 16th inst., eleven swans passed over Epworth, just above the tops of the houses, and great numbers of ducks, &c., are seen daily passing over from the extensive bogs to the west of the above place to the marsh lands on the eastern banks of the River Trent. I have been informed that 1100 wild fowl have been taken in Mr. Healey's decoy, near Ashby, during the last week or ten days: the ducks taken in this decoy during the months of October, November, and December, are almost exclusively mallard, teal, and wigeon; but as the new year advances these are joined by many of our rarest ducks, including ruddy shieldrake, common shieldrake, shoveller, garganey, &c. I visited this decoy in October last, and saw a specimen of the little auk sporting among the ducks in the open part of the decoy; I was informed that it would often advance with the ducks to the mouth of the pipe, then seemingly not liking its narrow limits suddenly diving, re-appearing far down in the open decoy.—*Samuel Hudson; Epworth, January* 20, 1864.

Birds' Nests in December.—Two instances have come to my knowledge of birds building during the past month in this neighbourhood. One nest came into my possession about the middle of December; it had been taken from a ledge in a wheat-stack made last autumn, and contained three eggs. These eggs differed greatly in ground colour,—one being a light bluish green, the other two pale brownish yellow; but the markings were alike in all three. I showed them to a collector of experience in this town, and, as neither of us could feel certain as to what bird they were to be referred, I sent them to Mr. Doubleday, who is also unable to decide, thinking with us they have characteristics both of the linnet and the greenfinch. The nest was somewhat shaken and disarranged when I received it, but it appeared to me to be neither as round nor as deep as both those birds usually are; possibly the unusual situation may account for this. I may say that the person who took the nest has much practical knowledge of the habits of birds, and satisfied himself that no deception had been practised; one of the eggs he blew, the other two I saw the contents of myself: they certainly had not been laid more than a week. The other instance I referred to was that of a hedgesparrow; singular to say, this was also in a rick—in this case of beans: it also contained eggs.—*W. G. Rawlinson; Taunton, January* 1, 1864.

"*Notes on the Ornithology of Iceland.*"—I must trouble you to insert in the 'Zoologist' a few words from me, in consequence of the form into which you have thrown my "Notes on the Ornithology of Iceland," extracted by you from the Appendix which I contributed to Mr. Baring-Gould's recently published work, and reprinted in your Magazine (Zool. 8935, *et seq.*). In these notes I strove to compress into the smallest space possible all the information which seemed to me of importance respecting the different birds enumerated in my list, to which you have done me the honour of giving further circulation. Accordingly I doubt if it would be possible for any one to make extracts of the particulars I therein gave, and yet preserve my meaning accurately. This is shown in several instances, of which I will here only specify two. With respect to the Greeenland falcon (*Falco islandicus*, Gmel.), you append to the name of the bird "[one seen]" as the result of my remarks on that species. Now this produces an impression totally different from what is conveyed by my statement in the paper from which you quote. I myself, having been in the island only from April to July, never saw the Greenland falcon alive at all, but I referred, on Herr Preyer's authority, to a single case of its occurrence *in summer*, which has led I presume to the misconception, for the bird itself, as I have said in that portion of my general remarks which you quote at length (p. 8936) "occurs frequently in Iceland," and in the portion which you do not quote at all I have spoken of it as "of regular occurrence in winter." Again, in regard to Bruennich's (not Brunnich's) guillemot (*Uria bruennichi*, Sabine), it would appear to an ordinary reader of the summary of my note—"[Doubts entertained as to its distinctness]"—that these doubts were entertained by me, whereas all I said on that score was that Faber "seems to have been in doubt" on the subject, and neither I, nor as far as I know any naturalists who have been familiar with the bird, have ever hesitated about the matter. I shall be much obliged, therefore, if the readers of the 'Zoologist' will have the kindness to draw their pen through my name, which appears at the bottom of page 8944, as its presence there might induce the supposition that I had signed, and was consequently responsible for, all the statements as they stand in the abstract of my paper, many of them having been in the original much modified by their context. I must further beg those persons who are really interested in the Ornithology of Iceland, to refer in all cases that may require it to Mr. Baring-Gould's work, as I fear otherwise my authority may be quoted for some unqualified opinions that I had no intention of uttering. Permit me also to add here, that certain rather important corrections and additions to my list of Icelandic birds are to be found in the last number of the 'Ibis' (pp. 131-133), as well as to notice that the specific name applied by Faber to the ptarmigan of Iceland, and rightly quoted by me, is "*islandorum*," and not "*islandicus*," as printed in the 'Zoologist' (p. 8940).—*Alfred Newton; Magdalen College, Cambridge, February* 2, 1864.

[Not only for Mr. Newton's information, but for that of all my contributors who may not understand the editorial brackets, I beg to state that the words or paragraphs so inclosed are mine, whether signed or not: I do this for the express purpose of showing that for passages so inclosed I take the sole responsibility. I endeavoured within such brackets to express the truth, but I had no idea that any one would consider them Mr. Newton's because his name appears at the foot of the article to which they refer.—*Edward Newman.*]

Occurrence of the Redeyed Flycatcher in England.

By EDWIN BROWN, Esq.*

A MALE specimen of the redeyed flycatcher (*Muscicapa olivacea* of Linneus and Wilson) was trapped by a birdcatcher, together with its female companion, at Chellaston, near Derby, in May, 1859. The specimen of the male is in my possession; the female was unfortunately not preserved.

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[*] Extracted from the 'Natural History of Tutbury,' p. 385.

This appears to be the only recorded occurrence of the redeyed flycatcher in Europe. It inhabits the continent and islands of North America. Wilson says that during the summer months "it inhabits from Georgia to the river St. Lawrence, arriving late in April, and leaving Pennsylvania about the middle of September." He was under the impression that it winters in Jamaica and the other West India Islands, but Gosse distinctly states that it does not spend the winter in Jamaica—that it arrives there in March from the East, and departs in October: it is, therefore, probable that it spends the winter months in Venezuela or New Granada, or adjoining countries, reaching them by the Isthmus of Panama. It is very common in the United States, and also in Jamaica, and, owing to the peculiarity of its note, it is a very well-known bird. Mr. Gosse furnishes us with such a vivid sketch of its habits, that I am tempted to extract rather largely from his 'Birds of Jamaica.' He says it is "much oftener heard than seen, though not unfamiliar to either sense: this sober-coloured bird is one of those whose notes have such a similarity to articulations as to procure them a common appellation. The flycatchers in general are not very vociferous, but this is pertinacious in its tritonous call, repeating it with energy every two or three seconds; it does not ordinarily sit on a prominent twig, or dart out after insects, though I have seen one in eager but unsuccessful pursuit of a butterfly (*Terias*), but it seems to love the centre of thick trees, where it sits announcing its presence, or flits from bough to bough as you approach, so that it is not easy to get a sight of it.

"On the 26th of March, on my return to Bluefields, after a visit to Spanish Town, I heard its well-known voice, but my lad had noticed it a week before: from this time every grove, I might almost say every tree, had its bird, uttering with incessant iteration and untiring energy, from its umbrageous concealment, Sweet-John!—John-to-whit! — Sweet-John-to-whit! — John-t'whit! — Sweet-John-to —— whit! I can scarcely understand how the call can be written 'Whip-Tom-Kelly,' as the accent, if I may so say, is most energetically on the last syllable. Nor have I ever heard this appellation given to it in Jamaica. After July we rarely hear John-to-whit, but To-whit—to-whoo; and sometimes a soft simple chirp, or sip-sip, whispered so gently as scarcely to be audible. This, however, I have reason to believe, is the note of the young, for I have heard young ones repeatedly utter it, when sitting on a twig, receiving from time to time, with gaping beak and quivering wing, the food contributed by the dam."

The redeyed flycatcher feeds chiefly upon insects, but varies its diet with ripe berries of several kinds. This mixed diet indicates the species at present under consideration to be more nearly related to our warblers than to the gray or pied flycatcher of Britain. The two last-mentioned species are purely insectivorous in their habits, but most of our warblers will commit depredations upon our currant trees and strawberry-beds. The redeyed flycatcher is said to build a pretty nest, composed of dried grass and leaves, mixed with lichens, insect cocoons, spiders' nests, cotton, bits of paper, fragments of hornets' nests, and any odd thing it can lay hold of, lining it with vegetable fibres, and suspending it firmly between two twigs. The eggs are three, four, or five in number, and are of a clear white, dotted with a few minute spots of reddish brown about the larger end.

My specimen measures five and a half inches long. The top of the head is smoky gray, vanishing as it were on each side into narrow stripes of smoky black, beneath which and over the eyes are broad streaks of ashy white. The sides of the neck, the back, the wings and tail are olive-green; the inner portions of the wing and tail-feathers brownish black; the chin, throat and belly white. The bill, as Wilson remarks, "is longer than usual with birds of its tribe, the upper mandible overhanging the lower considerably, and notched, dusky above and light-blue below." The legs and feet are bluish, and irides red.

It may give a good general notion of the appearance of the bird to say that at first sight it appears to partake of the characters of the sedge and garden warblers.

Breeding of Varieties, &c.—There have of late years been such extravagant theories broached on this somewhat vexed question, that it is quite refreshing to read the observations of Mr. Greening (Zool. 8905), and he cannot, I think, fail in carrying the more sober-minded naturalists with him where he says, "I have little doubt we shall find that Nature always resumes her course." This has been my impression, not to say conviction, for years. There is, I think, the same tendency in mixed breeds; for instance, at my native place, Bonchurch, tame rabbits were occasionally turned out among the wild ones, with which they associated and bred, gradually assuming the grayish brown coat, and assimilating in habits to the wild species. In after years none of varied colours were to be met with. The feathered tribe is no exception; the rock doves, for instance, frequenting the caves and cliffs of the northern coast of Scotland, are often found to be of a mixed breed, in a transition state, and doubtless will eventually return to the original stock. European dogs in the East soon degenerate, and, where the breed is intermixed, gradually assume the native character or die out. This I believe to be the case with the mixed breed of the human race; for instance, the "half-castes" of India are a tolerably numerous class, but I much doubt whether their descendants of the third or fourth generation are proportionately so, and think it not unreasonable to suppose that they will eventually prove sterile, or die out; for, considering the long period that has elapsed since India was first colonized by Europeans, and the paucity of white women, it might have been expected that a far greater number of a mixed breed would have been found, had there not been a counteracting influence at work. The mixed remnant of the Portuguese race are so degenerated that they are now barely distinguishable from the lower-caste natives, and will probably, ere many generations, have become extinct, or undistinguishable; for where the mother is a woman of colour, the offspring, I am inclined to believe, generally bear a greater resemblance to her than to their white or semi-white progenitor. *Henry Hadfield; Ventnor, Isle of Wight, February* 6, 1864.

[Captain Hadfield introduces a very interesting and important subject when he alludes to the varieties of man, but one which I fear cannot be fully discussed in the 'Zoologist;' individually I have not the slightest objection to it, but I fear, were all the facts connected with the question fully discussed, some readers of the 'Zoologist' might consider them rather out of place: under these circumstances I suggest that that particular branch of the subject may be dropped, while I would earnestly invite the publication of all the facts relative to quadrupeds, birds, or more especially insects, and the tendency of species to depart from or return to their normal character.—*Edward Newman.*]

Scarcity of Sphinx Ligustri in the Neighbourhood of Newark.—A correspondent (Zool. 8906) records the unusual abundance, in the neighbourhood of London, during the summer of 1863, of the larvæ of Sphinx Ligustri. I was surprised at this announcement, as the very opposite is the case here. It is known that this portion of the Valley of the Trent formerly produced S. Ligustri very freely. One seldom walked alongside a privet-hedge, or cast his eye over the privet and lilac plantations in the nursery-grounds or cottage-gardens, without observing the velvety-green larva resting on a towering twig, and any collector known to "buy grubs" was pretty safe to have some half-hundred brought in during the season. With us this insect now seems a thing of the past. Since the wet summer and intensely severe winter of 1860 I have not seen, nor been able to procure, a single larva, and I am assured, both by collectors and also by intelligent nurserymen (who here know the insect in all its stages) that they have not seen either larva, pupa or imago since 1860; this is another instance of how particularly severely the belt of the Trent suffered at that time. I cannot agree with your correspondent as to the habit of the *young* larva of this insect, namely, that it descends to the surface of the ground for the purpose of concealment during the day. Long observation brings me to the conclusion that at no stage of its growth does it descend, so long as food is abundant, and that its first extended "constitutional" is when instinct prompts it to seek a suitable place for transformation. I have collected the larvæ at all ages, from the thickness of a straw upwards: they are quite readily found while young on the privet plants in nursery-grounds, but on larger bushes and in hedge-rows they are proportionally difficult to discover. I am satisfied that they do not in any stage attempt concealment, but depend entirely for protection on colour and attitude.—*George Gascoyne; Newark-on-Trent, February,* 1864.

Crowding of Non-gregarious Lavæ.—I once bred a number of larvæ of Sphinx Populi from the eggs; they quarrelled desperately; they walked over each other in the most reckless manner—the one walked over usually contenting himself with jerking about and butting the assailant with his head, unless his claspers were interfered with, when he turned and snapped his jaws most viciously. Occasionally two of them got their claspers locked together, and then the fight was furious; but their savage bites did not appear to penetrate the skin, at least in general, for it is different at the time of a moult. I had observed that the tails of several had disappeared, leaving a black scar; and one evening I noticed the head of a healthy young larva in suspicious proximity to the tail of a much bigger one laid up for moulting; on close inspection I found the caudal horn of the invalid much shortened, and the stump of it bleeding copiously, and furnishing the cannibal with a plentiful supply of what, I suppose, may fairly be turned "hawk's-tail soup." How differently these really solitary larvæ behave from those which are gregarious when young, such as Saturnia Carpini and Endromis versicolor; these, though separating as they grow older, never quarrel when they meet, but crawl over each other without any unpleasantness.—*F. Beauchamp; Brighton.*

Hybernation of the Larvæ of Liparis auriflua.—About the middle of last October, while beating a hawthorn hedge, I found to my surprise two larvæ of Liparis auriflua. Not having reared this moth from the egg I could not decide their age precisely, but I should imagine they had just passed through the first change of skin. After feeding a few days, they both retired to corners of the box in which they were kept; here they spun a large cocoon: after remaining motionless for about a week they cast their skins, and then formed an inner cocoon of much closer texture, in which they of course still remain. I was not aware that it was the habit of this larva to hybernate occasionally.—*John R. S. Clifford; 21, Robert Terrace, King's Road, Chelsea, February* 10, 1864.

[Is this fact new?—*Edward Newman.*]

Habits of Young Larvæ of Endromis versicolor.—I do not know whether any of your readers have observed that if one or two larvæ out of a batch of eggs come into the world a little later than the rest, or for any reason fall back, they rarely do well. One year I had five eggs of Endromis versicolor; the last of the five did not associate with the others, and did not seem to grow from his birth; he never took his station on the leaf with the rest, but kept wandering about the muslin bag within about an inch of them, every now and then crawling close to them, when one of them would stretch out and with his head appear to feel the new-comer all over, as if to find out whether he was their real brother or not. It was just about the time of the final settlement of the Jewish Disabilities Bill, and I could not help being reminded of the scene in the House of Commons, the members tendering the oath to Baron Rothschild, which he could not conscientiously take. On the third day I pressed the muslin bag into such a shape that the birch-leaf touched it, and the poor outcast must have come into contact with its edge; but whether he had been exhausted by his former wanderings, or felt bullied by his big brothers, and broken-hearted by their want of sympathy and pined at being sent to Coventry—or for whatever reason, certain it is that he never took up his station among them, and on the following morning was found lying on his side, within a quarter of an inch of his hard-hearted relations, stone dead.—*F. Beauchamp.*

Description of the Larva of Numeria Pulverari.—Some eggs laid about the end of May last hatched in a week or two. The larvæ, kept in a very cold room, fed very slowly and did not begin to spin-up until quite the end of August. General colour purplish brown, varied with ochreous; head bifid, light ochreous-brown, especially in front; a broad ochreous stripe, lightest at the upper edge, along the upper part of the side of the 5th segment. On each segment, from the 5th (inclusive) backwards, a pair of very small points, which are light in front and dark behind; besides smaller points just behind the spiracles. A pair of large warts on the back of the 9th segment, a pair much smaller on the back of the 10th and 12th, and a pair smaller still on the back of the 11th segment. The 10th, 11th and 12th segments have some dark arrow-head lines (not however, quite meeting in a point) on the back, margined outwardly with ochreous; sides wrinkled, especially of fore part of body; belly purplish brown, with ochreous blotches on each side, the claspers underneath being dark bluish green, and the space between a pair of claspers yellowish; sometimes a lighter line down the middle of the belly. They fed on sallow, spinning up among leaves and moss.—*F. Beauchamp.*

Larva of Cidaria sagittata.—In July, 1855, I obtained some larvæ from eggs, found in a pill-box in which I had an hour or two previously captured a female C. sagittata. A description of the larva may be found in the 'Zoologist' for 1858 (Zool. 6030). I observe in the 'Annual' for 1864 another description of larvæ, said to be those of C. sagittata, upon the authority of Mr. Farren, who says that he bred the imago from the larvæ there described. Evidently both descriptions cannot apply to the same insect, and I hope that either Messrs. Hellens or Fryer will be fortunate enough to rear some of their pupæ, and satisfactorily determine whether the larva described in the 'Annual' is that of C. sagittata.—*Thomas Brown; 13, King's Parade, Cambridge, January* 23, 1864.

Larva of Cidaria sagittata. — The breeding of Cidaria sagittata has satisfactorily proved that insect to be not only not a Cidaria, but, if it is any relation at all to that genus, the cousinship is very distant indeed. Now that being the case, the question arises—to what genus does it belong? is there any family that will own it? If not, most probably some one of our leaders will set up sagittata on its own account. As it is somewhat of a vagrant at present, and as sagittata is evidently an aristocrat, judging by beauty of form and colour, the sooner it is put in a more respectable position the better. Now I have a notion that sagittata has near relations—in fact, very near relations in a respectable and extensive family, vulgarly termed "pugs" (*Eupithecia*), a family which, if they were little known until of late, are none the worse for that; it was not their fault. They were always "at home," if any one sought to make their acquaintance (see the agreeable way in which the Revs. H. H. Crewe and J. Greene have made friends with this neglected genus). I am aware that the larva and pupa of C. sagittata are not quite the thing for Eupitheciæ, but are all the larvæ of the Eupitheciæ stiff, and all the pupæ slender? Still they are very like, especially in their ways of living, in their markings, &c. They feed at the same time, go down to pupæ at the same time, construct their cocoons in the same way; and as for the imago of Cidaria, surely it must be a Eupithecia, or at least first-cousin to one. Why, look at it and any of the "pugs" side by side: does it not agree in every respect with them—the ample upper wings, and the very small rounded under wings? The habits of the imago, too, are just the same as with the Eupitheciæ. Mr. Bond and Mr. A. Fryer both agree with me that, when at rest, it is a Eupithecia to the back-bone, sitting flat against the object on which it rests, such for instance as a barn, as only Eupitheciæ can do: and Mr. Fryer tells me that C. sagittata rests at night on the flowers of Thalictrum aquilegifolium, in the very manner of the Eupitheciæ, with their wings up like those of a butterfly! I am aware that some of the characters mentioned agree with others of the Geometrina, but in no one family do they all agree as they do in the Eupitheciæ. Mr. Stainton, in his 'Manual,' says of Eupithecia:— "Antennæ of the male pubescent; abdomen often crested, sometimes with a dark band on the first segment; wings smooth, cloudy, concolorous, with numerous wavy slender lines; fore wings more or less prolonged at the tip; hind wings proportionably small; in repose the wings are spread out, and closely applied to the surface on which the insect rests." This is a generic description that agrees in every particular with the so-called Cidaria sagittata. I do not know that C. sagittata is really a true "pug," and I do not know that all "pugs" are really true Eupitheciæ, but I must say I think it comes very close. I hope some one better acquainted with the structure of the Geometrina will take up the subject, and put C. sagittata in a more fitting position than the one it now holds.—*W. Farren; 10, Crescent, Cambridge.*

Origin of the name "Puss" Moth.—I used to doubt whether this name was derived from the downy appearance and tabby-like markings of the imago, or from the queer face of the larva; but a recent incident has nearly removed my doubt. Some children, in describing to me the other day some which they had taken off willow in August, mentioned as their most striking feature that they had "cat faces." Soon after a boy was describing one, and when I asked him if it had a cat face, he exclaimed "It had a face like a lion;" not that boys are always very accurate observers. I have heard of one who stood one day trembling and crying in the dock, and when the bewigged judge asked him kindly what he was afraid of, at last stammered out that the judge looked like a lion! "Where have you ever seen a lion?" asked his lordship. "I've seen a great many on Blackheath, carrying sand," was the answer; at least, such is the story; and it is added that the judge, seeing that the boy was a stupid one, who did not know a donkey from a lion, said no more.—*F. Beauchamp.*

Heliothis armigera near Arundel.—My first notice of this insect being in this neighbourhood occurred through observing a pair of fore wings amongst a heap of lepidopterous *débris* left by a colony of bats in an arbour in my garden, in September, 1855. The year following, observing that the bats chiefly took their prey over the surface of some high-grown ivy, I had some long ladders so placed as to enable me to explore the blossoms at its upper growth, twenty feet high; at the same time causing all the ivy blossom on the trees in the immediate neighbourhood to be entirely cut away. The result was the capture of a pair of H. armigera, which settled near me with quivering wings. During seven years I have taken ten specimens, eight in comparative motion and two at rest, and almost all at a high elevation.—*R. D. Drewitt; Peppering, Arundel, January* 7, 1864.

Offer of Euplocamus Boleti [*Scardia chorargella of Doubleday*].—I have a quantity of this insect, which I shall be glad to distribute. Any one collecting Tineæ can have specimens on sending box and stamps for return; as I have somewhere about thirty dozen, let no one be afraid of asking for a full series, stating what that series consists of. Any one pretty liberally disposed, who has Tortrices, Tineæ, or Plumes in duplicate, and who can help me to a species, will be thanked very much; still it must be understood, there is only one condition to this offer—that is, to send box (a strong one) and return stamps.—*W. Farren.*

Micro-lepidopterous Larvæ Mining in the Leaves of Lofty Trees.—It is but seldom that an entomologist has an opportunity of examining the tops of lofty trees. Last autumn, however, a heavy gale brought down some of the highest boughs of some old oaks and elms in Wimbledon Park. Examining these, I was surprised to find numerous mines and blotches of Tineina; not having studied the Micros, I cannot particularize the species. The fact struck me at the time, because I had always imagined, from the delicate structure of their wings, and their manner of flight as far as I had observed it, that the Tineina did not fly to any considerable altitude, and that their larvæ fed only upon the lower boughs of trees. My search was rather a hurried one, but I found no external-feeding larvæ upon these branches; they might, of course, have been dislodged by the fall.—*John R. S. Clifford; 21, Robert Terrace, King's Road, Chelsea, February* 10, 1864.

Note on Zelleria hepariella and Z. insignipennella.—In the Proceedings of the Northern Entomological Society, Mr. Hodgkinson claims to have proved that these two supposed species were only the sexes of one, and moreover mentions having taken them *in cop.* I hope I shall not offend Mr. Hodgkinson, if I ask if he thoroughly knows the two insects. In the autumn of 1862 these species were unusually abundant amongst the yews on Mickleham Downs: I captured a considerable number of both, and have at the present time both sexes of both species in my collection; the two insects appeared to me to have different habits. Notwithstanding all that has been said on the subject, I shall certainly consider them as what the world calls two good species until they shall both have been bred from the same kind of larvæ. I presume Mr. Hodgkinson took his specimens after hybernation, as, according to rule, hybernating insects do not copulate till the spring. I may add also that the fact of two closely allied insects having been seen *in cop.* does not necessarily prove that they are one and the same species.—*Robert M'Lachlan; Forest Hill, February* 8, 1864.

Occurrence of Eryx atra in the Ash.—When out one evening last summer, in the beginning of June, I found a specimen of this insect on an ash tree, in company with an old friend, Dorcus parallepipedus: on visiting the tree every other evening or so, I managed to get about twenty specimens in all: Dorcus was very plentiful, but were allowed to escape. I found the best time for them was from 9 to 10 P. M., and, from getting the first to the last, was about four or five weeks. The tree is a decayed one. Although there are several other ash trees apparently in the same condition in the same field, I could find no Eryx in them, although plenty of Dorcus.—*W. Farren.*

Cicindela maritima and C. hybrida.—I should be obliged for information any readers of the 'Scrap Book' can give as to the distinctive features of the two (?) species of Cicindela, C. maritima, and C. hybrida, and of their respective habits, &c. Mr. Curtis says of C. campestris that it emits a scent of roses when handled;—has any one else observed this?—*F. Archer, jun.; 10, Rodney Street, Liverpool, in 'Naturalist's Scrap-Book.'*

[I should also be greatly obliged for this information, never having been able to distinguish the two species: a slight difference is said to exist in the outline of the middle spot on each elytron, but surely this is insufficient to constitute a species.—*Edward Newman*].

Captures of Donaciæ.—I have met with the following species of Donacia in Epping Forest, during the month of June, in 1862 and 1863:—D. dentata, D. dentipes (plentiful), D. Sagittariæ (1), D. thalassina, D. impressa, D. linearis, D. Typhæ (common), D. sericea, and D. Hydrochæridis. D. Hydrochæridis is plentiful on

Typha angustifolia growing in a large pond in the forest, but I have not found any other species with it. The other species I find most frequently on Sparganium, growing in a small stream which runs through the forest, and in the summer dries up into a series of pools. D. simplex I found very common on the banks of the River Wey, near Weybridge, at the beginning of July last.—*R. G. Keeley; 79, Marlborough Road, Chelsea, S. W., February* 5, 1864.

List of Coleoptera taken in the Liverpool District during 1862 *and* 1863:—

Anchomenus peliduus, *Payk.* Bidston Marsh, one specimen, by shaking the bundles of dried reeds. November.

Ilybius sexdentatus. This species has been added to the British list since Waterhouse's Catalogue of 1861. I have one specimen found in the district; I believe I took it in the brook which runs on to the shore at Little Brighton.

Hydroporus reticulatus, *Fabr.* In ditches in the Altcar rifle-ground. September.

H. lepidus. The same situation, and at Crosby; also at New Brighton.

Bledius fracticornis. I found several in May, 1862, by examining the floating weeds, &c., brought down Wallasey Pool in a flood.

Hydnobius punctatus of Sturm. One by sweeping close to Hightoun. September. This is new to the British list.

Saprinus quadristriatus. Not uncommon at New Brighton, at the base of the bare sand-hillocks. Most abundant in May.

Ips quadripunctatus. The Fungi near Mostyn, Flintshire.

Sarrotrium clavicorne. Abundant on the sand-hills behind Mr. Barucheon's house, Crosby shore. June.

Trogosita mauritanica, Tribolium ferrugineum. Abundant feeding on the inside of matting on the Crosby shore. June. These two species are probably introduced with the food.

Niptus hololeucus. Mr. Brockholes has sent me this species from Paddington.

Helophorus nubilus. Bidston Marsh. By sifting damp flood refuse. December.

H. intermedius. Abundant in a shallow flash of water, Crosby sand-hills, near the mouth of the Alt; also on the banks of the Alt. This species has hitherto been unique in England, one specimen only being in Dr. Power's collection.

H. æneipennis. Ditches, Altcar rifle-ground. September. Also by sweeping grass overhanging a drain near the Alt. March. This species is new to the British Isles.

H. dorsalis. Abundant in the ditches, Altcar rifle-ground. This is also new, being distinct from H. dorsalis. March.

Cis villosulus. In Fungi near Halewood, associated with C. Boleti.

Anaspis ruficollis. On Umbelliferæ flowers, Mostyn Wood. July.

Adimonia Tanaceti. Sand-hills, New Brighton. October.

Cryptocephalus ameolus. Common on New Brighton sand-hills (on sunny days only), or flowers of Hieracium pilosella and dandelion. May and June.—*F. Archer, jun.; 10, Rodney Street, Liverpool, January* 18, 1864, *in 'Naturalist's Scrap-Book.'*

Note on Fulgora laternaria.—In all branches of Natural History there are certain species indelibly connected with some cherished history of childhood,—some that no doubt have been so united for centuries past: these we care not to separate, even though stubborn facts would ruthlessly dispel our long-dreamt dream; thus the robin covered the Children in the Wood "painfully with leaves;" the wolf glared on Little Red Riding Hood; and amongst insects, does not the glow-worm trim her lover's lamp, and does not the lantern fly, like a wandering star, flit before us in the forests of South America? Any matter-of-fact person who ventures to explode any of our popular beliefs meets with a cold reception; therefore, on looking over the July number of the 'Zoologist' (Zool. 8656), and meeting with an article headed "The Lanthorn of Fulgora Laternaria," in which Mr. Robert John Treffry, of New Granada, says, "I cannot tell why it is called the 'lanthorn fly,' for it gives no light," in being able to answer his question by replying, "Because other people have been *more fortunate* than yourself, and have seen its beautiful luminosity." Had I possessed no further knowledge of the subject than Mr. Treffry, what had I thought of the following?—"The so-called lanthorn appears to answer as a drum to reverberate its hum, and as a 'buffer' to protect it, when in its rapid flight it strikes against an obstacle, as it is elastic and horny. . . . . . . I think its use is what I have stated—an instrument of sound and a 'buffer.'" I am expected to believe that the lamp of the winged torch-bearer is no more than this. No! do not believe in any such degrading fact. I will bring evidence before you of such weight as to settle the question of the luminosity of the lantern fly, and restore it to its legitimate position in your minds as a light-bearing insect. At a Meeting of the Royal Physical Society of Edinburgh, held November 24th, 1858, a specimen of the lantern fly (*Fulgora Laternaria*) was exhibited by Dr. J. A. Smith, who observed that it was still an undecided question amongst naturalists whether these flies were really at any time luminous or not. It was therefore of importance that the undoubted evidence of eye-witnesses should be produced. Mr. Banks, of Prestonpans, who forwarded the Fulgora to Dr. Smith, was therefore at once requested to obtain further information from his correspondents on that particular point. On the 27th of April, 1859, at a subsequent Meeting of the same Society, Mr. James Banks communicated, through Dr. Smith, the reply of his correspondent at Honduras to the question raised at the Society. Mr. Banks had received various letters upon the subject of the luminosity of Fulgora Laternaria: they all bore testimony to the truth of the statement of this fly really emitting a light. One from Mr. Alexander Henderson, of Belize, furnished the following details:—"In answer to the question, 'Is it really luminous?' certainly the fly possesses light, and therefore emits it. The light is evidently under control, for it increases and diminishes at pleasure. When the wings are closed there are three luminous spots on each side of the head-part, on the upper part (like a cat's staring eyes) of a beautiful sulphur-coloured light, in rays that spread over the room. The third luminous spot is seen when the fly is on its back, half-way down the abdominal part of the insect. When quiescent the lumination is least; in daylight the upper spots are nearly white, emitting no light whatever (its lively time is at twilight). Immediately on being agitated, or moving about, the spots become sulphur-colour, and radiate forth streams of light, clearly seen, although the sun be shining into the room, as it now does at the moment I write, with the creature in the glass tumbler before me. We shut out the light, and to test the power of the fly I took up a book and read two verses of the 109th Psalm. Mr. Robert Gregg also took up a book and read by its light. I hope this will satisfy all that the lantern fly is luminous." In the 'History of the West Indies,' by R. M. Martin, 1837, vol. ii. p. 104, being vol. v. of the "British Colonial Library," is a statement fully corroborating the truth of the lantern fly being luminous.

The question must, I think, now be considered as settled; and this, I hope, wipes away the last stain cast upon the fair fame of Madame Merian: romance, as it has hitherto been considered by many, becomes plain reality.—*President's Anniversary Address to Entomological Society, January* 25, 1864.

[I believe the Honduras firefly, with intermittent light, is an Elater; if so, the Fulgora question remains *in statu quo.—Edward Newman.*]

Life History of Anabolia nervosa.—The eggs of this insect are deposited by the parents in September and October; the young are hatched, I presume, the same autumn, but of this I am not sure; from the small size of the larvæ when found in the early spring of the succeeding year, I am led to believe they are hatched the preceding autumn. These larvæ live in very slightly running water, and even in still water; when in still water they appear to me to make larger cases than they do in running water; the reason for this I cannot understand. When these larvæ are very young they might be easily mistaken for those of another genus, namely, Leptocerus; for the construction of their cases is very similar—both are composed of fine glutinous silk, coated with grains of fine sand, the tubes slightly curved. The principal difference, however, is that the Leptocerus larva rounds off the posterior end of its case, whereas the Anabolia larva either cuts off the end quite straight, or it is slightly truncated; but, as the animals grow and build up their cases, the difference becomes very apparent. The Anabolia uses larger materials, and builds a larger case; it then has a considerable curve, something in appearance to a long cornucopia coated with grains of coarser sand and small stones; up to this stage no balancers or vegetable materials are used. While the animal is at this stage of its existence it does not move very far from the place of its nativity; but, as it approaches to maturity, it appears to have gained somewhat of a roving disposition, and then it is that he adds a piece of straw, grass or stick, as a balancer; this is, it appears to me, to give greater buoyancy to its case, so that it can move through the water with greater facility and ease. There are other pieces added as the animal grows older and requires to move about further in search of food, of which at this period of its existence it requires a great deal. The number of straws, sticks, &c., attached to its case renders it very buoyant; two of the sticks are longer than the others, and are so nicely adjusted as to keep the animal's head lower than the other end, so that it can lay hold of stones or other things at the bottom. If the case was equally poised the animal would not have the power over the direction of its case, particularly in rapidly running water. There is a wonderful piece of engineering skill, termed instinct, (or, a better name for it would be common sense), displayed here by a humble creature like this; in other words, means adapted to certain ends. When the larva is full fed, which is about the middle or towards the end of July, it then goes into the pupa state, in which it remains about a month or six weeks; the perfect insect emerges from about the end of August through September and October. Before the larva goes into the pupa state, a grating of a gelatinous-looking substance, which hardens, is placed over the hole at the posterior end of the case; at the same time the anterior end is firmly affixed to a stem of grass, a bit of stick, or a stone, by thickly woven silken threads, which prevents all intruders from getting in at that end, and the grating prevents anything from prying in at the other; at length the imago wakes up, and is ready to perpetuate its species, as its parents had done before.—*Edward Parfitt.*

Psyche Neuropterous.—“Mr. Newman has latterly expressed a real or a feigned doubt about the lepidopterous nature of the insect [Acentropus niveus], notwithstanding his taking credit in 1857 for having been one of the earliest to predict that it would prove to be a Lepidepteron. This is, however, not more extraordinary than that the same writer should at one time have maintained the genus Psyche to be neuropterous." —*Edwin Brown, in 'Natural History of Tutbury,'* p. 400. Now this paragraph, which the reader will see is penned in rather an adverse and depreciatory spirit, is very useful to me as reminding readers that, in common with the great European entomologists, I entertain doubts as to the lepidopterous nature of Acentria: doubts neither feigned when I expressed them, nor dissipated now that Mr. Brown has published *in extenso* his valuable observations on the subject (Zool. 8917); but also that thirty-three years ago I suggested the possibility of uniting the Psychidæ with the Phryganidæ through Talæporia and Tinodes. As to calling Tinodes neuropterous, we all used to do so formerly, and it is only the idea of annexing Psyche and Talæporia to Tinodes, and the other Phryganidæ that was new. Copernicus was not only ridiculed but imprisoned for asserting that the earth travelled round the sun; he contented himself with saying that it was true notwithstanding; he knew that neither ridicule nor imprisonment could turn aside the course of Nature; that if it were the appointed duty of our globe to move in the course he suggested, the movement would continue whether the authorities and the wits approved of it or not; and thus it will prove with all novel suggestions: they will be ridiculed for a time, but if true adopted hereafter. I may also remark that Mr. Brown will see, on a careful reperusal of the passage in question, that the word "maintained" is somewhat inappropriate. I only "suggested" that "Tinodes or Psyche be placed on the circumference of the circle containing the Phryganidæ;" and I go on to say, "supposing Psyche to be the approaching genus to Lepidoptera." I am sure that it will be known to all entomologists that I have not the merit of placing the Phryganidæ among the Neuroptera; I found them so placed by Linneus and Latreille, and all the greater entomologists, and I only let them alone.

Before concluding, I must say that I hail with nnmixed satisfaction every attempt to reopen the discussion on the affinities of Acentropus: and I rejoice that Mr. Brown can believe himself to have settled so difficult a question; at the same time I cannot help recommending to him a much more careful examination of the larva and pupa, for if the figure drawn by himself of the former be correct, in appearing to have eleven spiracles and six pairs of claspers, it is utterly impossible that such a larva should produce a lepidopterous imago; and again, if the figures of the pupæ approach to correctness, the insect can have no affinity to Zeuzera and Hepialus, near which he proposes to place it: all the Xylophagi are distinguishable in their pupa state by the singular form and by the double series of hooks surrounding every segment. — *Edward Newman.*

Manual of British Trichoptera.—"Notes on British Trichoptera," by Mr. M'Lachlan, is a paper full of valuable information, particularly that portion which treats of the interesting habits of this family. I can fully appreciate the regret expressed by the author that so few Entomologists pay any attention to the Phryganidæ; were it otherwise, many interesting discoveries would no doubt be made. Let us hail, then, with marked approbation, the announcement of the intention of the author to commence at once a Manual of the British Phryganidæ; and let us hope that the production of this work will prove the means of bringing into the same field a number of labourers as energetic and accomplished as the author of the promised Manual.—*President's Anniversary Address to Entomological Society, January* 25, 1864.

Proceedings of Societies.

ENTOMOLOGICAL SOCIETY.

Special General Meeting.—January 25, 1864.—**FREDERICK SMITH**, Esq., President, in the chair.

A Special Meeting was this day held, pursuant to notice, for the purpose of considering certain proposed alterations in the Bye-Laws, the objects of which were (1) to change the title of the Curator to that of Librarian, (2) to transfer to the Librarian certain duties hitherto performed by the Secretary, (3) to abolish the Library and Cabinet Committee, (4) to abolish the Publication Committee—and to vest in the Council the powers and duties of both those Committees, and (5) to repeal chap. XVII. sec. 3, whereby residents in the United Kingdom are excluded from Honorary Membership of the Society.

The alterations necessary for effecting the first object were proposed by Mr. Dunning, and seconded by Mr. May; that for effecting the second object was proposed by Mr. Dunning, and seconded by Mr. Grut; those necessary for and consequent upon effecting the third object were proposed by Mr. Dunning, and seconded by Mr. Edward Sheppard; those necessary for and consequent upon effecting the fourth object were proposed by Mr. Dunning, and seconded by Mr. Wilkinson. The above were carried without division.

The repeal of chap. XVII. sec. 3, was proposed by Mr. Pascoe, and seconded by Mr. Baly. The Meeting was addressed on this question by Mr. Dunning, Mr. McLachlan, Mr. Edward Sheppard, and Mr. Waterhouse; and by Mr. Pascoe in reply.

On a division the numbers were—For the motion, 6; against it, 14. The motion was consequently lost.

Annual Meeting.—January 25, 1864.—**FREDERICK SMITH**, Esq., President, in the chair.

An Abstract of the Treasurer's Accounts for 1863, and the Annual Report of the Council on the general concerns of the Society, were read.

The following gentlemen were elected Members of the Council for the ensuing year:—Messrs. Bates, Rev. Hamlet Clark, Dunning, Grut, McLachlan, May, Pascoe, Edwin Shepherd, Frederick Smith, Stainton, Samuel Stevens, Alfred R. Wallace, and J. Jenner Weir.

The following Officers for the ensuing year were then elected:—Mr. Stainton, President; Mr. S. Stevens, Treasurer; Messrs. Shepherd and Dunning, Secretaries; Mr. Janson, Librarian.

The retiring President delivered an elaborate Address, at the conclusion of which a vote of thanks to Mr. Smith for his uniformly courteous conduct in the chair, and for his constant attention to the affairs of the Society during his biennial Presidency, was carried by acclamation. The vote was accompanied by a request that the Address might be printed in the 'Journal of Proceedings.'

The President returned thanks; and a complimentary vote to the other Officers and Members of Council for 1863 was subsequently carried and duly acknowledged.

February 1, 1864.—FREDERICK SMITH, Esq., Member of the Council, in the chair.

Donations to the Library.

The following donations were announced, and thanks voted to the donors:—'Proceedings of the Royal Society,' No. 59; presented by the Society. 'Sitzungsberichte der Königl. bayer. Akademie der Wissenschaften zu München,' 1863, ii. Part 1; by the Academy. 'Tijdschrift voor Entomologie,' Vol. vi. Parts 3—6; by the Entomological Society of the Netherlands. 'The Zoologist' for February; by the Editor. 'The Journal of the Society of Arts' for January; by the Editor. 'The Athenæum' for January; by the Editor. 'The Reader' for January; by the Editor.

The following addition, by purchase, was also announced:—'Genera des Coléoptères d'Europe,' Livr. 117 à 120.

Election of President.

The Secretary gave notice that, in consequence of Mr. Stainton having declined to accept the Presidency, the Meeting to be held on the 7th of March next would be made Special, for the purpose of electing a President; and that the Council recommended Mr. Francis P. Pascoe for election to the vacant office.

Exhibitions, &c.

The Rev. Hamlet Clark exhibited a collection of Australian Phytophaga, composed partly of specimens from the cabinet of Mr. C. A. Wilson, of Adelaide, and partly of the proceeds of Mr. F. G. Waterhouse's journey of exploration across the interior of Australia.

Mr. S. Stevens exhibited specimens of butterflies of exotic hue, but of home manufacture; they were made of feathers, and intended for personal ornament.

Prof. Westwood remarked that great destruction of specimens of the more beautiful species of butterflies had taken place in Paris; large prices (larger than Entomologists could afford) had been given for the finest and most brilliant examples, which were used for ladies' head-dresses, &c., and of course destroyed in an evening. The feathery imitations were equally beautiful, more lasting, and would render unnecessary the wholesale destruction of the originals.

The Secretary exhibited part of the head of a coffee-cask recently received from Ceylon by Mr. R. L. Thomson, of Alderney Road, Mile End; the wood was thoroughly riddled by larvæ, apparently of the genus Anobium.

Prof. Westwood remarked that a Committee had for some time been engaged at South Kensington upon the question of the injury done to ancient wood-carving. The Report of that Committee will shortly be ready, and he thought it would be found both interesting and valuable.

Sir J. Hearsey exhibited a collection of Coleoptera from India and China; the principal part from the former country.

Prof. Westwood exhibited a specimen of "wild silk" placed in his hands by Mr. Daniel Hanbury; it had come from the State of Salvador, Central America, and was the work of a colony of larvæ described as "dark bluish, feeding on an oak bearing large acorns," the moth being "dirty gray." The Professor discussed at some length the probability of the silk being made economically useful.

Mr. F. Smith exhibited a collection of wasps' nests—one of Vespa rufa, the rest of V. vulgaris; they were in various stages of formation, the earliest consisting of only a single cup containing the first egg, others consisting of three or four cups, whilst others again were more complete. The whole had been artificially obtained by Mr. Stone, who tempted the wasps to build by excavating holes in banks and furnishing them with foot-stalks; in fact, Mr. Stone appeared to possess the power of inducing wasps to build nests of almost any shape he pleased.

Mr. T. W. Wood (who was present as a visitor) exhibited a mass of conjoined cells which had been found embedded in a piece of Honduras mahogany at Chatham Dockyard; the cells were in form like the honey-pots of a humble-bee, brittle and very light, and composed apparently of comminuted or triturated and agglutinated wood and earth. Mr. Bates suggested that they might possibly be chambers of a species of Termes, though he thought they were too large. No other Member hazarded a conjecture as to the origin of the phenomenon.

Prof. Westwood exhibited a further selection from the captures in the Zambesi country of the Rev. H. Rowley, and read the following description of a gigantic species of Moluris:—

MOLURIS (PHANEROTOMA) ROWLEIANA, *n. sp.*

Species magna et insignis, *M. Bertolonii* fere æqualis. Capite et pronoto nigris, opacis, punctatissimis; prothorace subquadrato, lateribus rotundatis, latitudine majori paullo ante medium. Elytris oblongo-ovatis, prothorace paullo latioribus, luteo-villosis, singulis costis quatuor obliquis nigris nitidis instructis; sutura nigra, nitida. Corpore subtus et pedibus nigris, subnitidis, punctatissimis; abdomine, læviori.

Long. corp. unc. 1¾; prothoracis, lin. 6; elytr. lin. 14.

Habitat prope fluv. Shire, Zambesi.

Revdo. H. Rowley capta, et ad Museum Entomologicum Oxoniæ benevole communicata.

Prof. Westwood also read the following descriptions of two anomalous Carabideous beetles:—

Genus DELINIUS, *Westw.*

Genus novum Carabidorum, *Steropi madidi* habitu et statura. Antennæ breves, graciles, geniculatæ, articulo basali tertiam partem occupante. Caput mediocriter porrectum, labro in medio marginis antici prominenti. Mandibulæ graciles, acutæ, intus edentatæ. Maxillæ spina rigida apicali lobo interno, spinulisque margine interno armatæ. Palpi maxillares externi articulo apicali mediocre subsecuriformi. Palpi labiales magni, articulo ultimo magno securiformi. Mentum in medio emarginaturæ porrectum, truncatum. Prothorax subquadratus, lateribus rotundato-curvatis. Elytra ovalia. Tibiæ anticæ haud palmatæ, margine interno emarginatæ.

Sp. 1. D. Essingtonii, *n. sp.*

Niger, subnitidus; capite sulcis duobus inter antennas, pronoto sulco medio in fossula parva ovali ante marginem posticum terminato, sulcisque duobus prope angulos posticos notato; elytris striatis, costaque submarginali proditis.

Long. corp. lin. 8.

Habitat Port Essington, in Australia. In Mus. Hopeiano Oxoniæ.

Genus Spanus, *Westw.*

Genus novum Carabidorum, statura et habitu *Miscoderæ*; *Axinidio* et *Disphærico* affine. Caput parvum, porrectum. Prothorax globosus. Elytra ovalia, gibbosa, basi pedunculata. Labrum breve, profunde emarginatum. Mandibulæ apice acutæ, dente parvo subapicali marginis interni armatæ. Maxillæ lobo interno elongato, apice obtuso, longe ciliato. Palpi externi maxillares et labiales longi, fere æquales, articulo ultimo maximo, inflato, apice truncato. Mentum late emarginatum, margine antico incisuræ recto. Labium parvum, subtriangulare; paraglossæ elongatæ, tenuissimæ, setosæ. Tibiæ anticæ haud palmatæ, intus pone medium emarginatæ. Tarsi quatuor antici articulis quatuor basalibus brevibus, latis, subcordatis.

Sp. 1. S. Natalicus, *n. sp.*

Niger, glaberrimus; ore, antennis et pedibus piceo-rufis; capitis vertice oblique bi-sulcato; pronoto sulco tenui mediano impresso; elytris stria profunda prope suturam, alteraque marginali, puncto prope basin, alteroque subapicali singulatim impressis.

Long. corp. lin. 3½.

Habitat in Natalia. D. Guienzius. In Mus. Hopeiano Oxoniæ.

Mr. Waterhouse exhibited a specimen of Psammodius porcicollis and a specimen of Onthophilus exaratus, and read the following notes respecting them:—

"The specimen of Psammodius porcicollis I found mixed, in Kirby's British collection, with the Psammodius sulcicollis, which it greatly resembles; the specimen of Onthophilus exaratus I have had for many years in my own British collection, where it stood with a specimen of Onthophilus sulcatus, and was supposed to be the same species; the two insects in all probability having never been compared till within the last few days, when, having determined to clean them, and mount them on card, I then perceived that they were distinct species. The history of the specimen is unknown to me, but I believe it was given me as the O. sulcatus. Both the insects exhibited, it would appear, are known only as inhabitants of South Europe. It is hoped that this notice will induce our Entomologists to examine their British collections, with the view of ascertaining whether they contain these species, and can furnish us with any information respecting them.

"Psammodius porcicollis (Aphodius porcicollis, *Illiger, Magazin für Insectenkunde,* ii. p. 195, 2, 1803) has the same thickly tuberculated head, the transverse ridges on the thorax, and strongly sulcated elytra, as in P. sulcicollis; its colouring, moreover, is the same, being pitchy black, with the legs and fore part of the head dull rufous; but it differs in being decidedly larger. The oblique ridges seen on the head of P. sulcicollis, and which converge and meet at an angle near the hinder part of the head, are scarcely to be traced in P. porcicollis, nor are the large punctures which are visible in the former insect on the back of the head. The thorax is relatively more ample in P. porcicollis, and the coarse punctures in the transverse sulci are more numerous and more evident, especially on the hinder part of the the thorax, behind the posterior transverse ridge: the elytra are more strongly sulcated, and the punctures in the sulci are larger, and separated from each other, for the most part, only by narrow transverse ridges; the interstices of the striæ are broader; and lastly, the outermost interstice is continued from the base of the elytron only about half-way towards the apex, so that the two outermost striæ become confluent beyond that part. The corresponding interstice in P. sulcicollis is at first (near the humeral angle of the elytron) united for a short distance with the much more prominent interstice which is nearest to it, and then is free, and extends to the apex of the elytron.

"Onthophilus exaratus, *De Marseul, Essai Monographique sur la Famille des Histérides, Ann. de la Soc. Ent. de France*, 3me série, iv. p. 552, sp. 2. Hister exaratus, *Illig. Magaz.* vi. 48, 25 (1807).—The insect exhibited is as large as the largest specimens of O. sulcatus, and is placed by De Marseul and others in the section of the genus in which there is an odd number of longitudinal ridges (5) on the dorsal surface of the thorax,—a section which includes our O. sulcatus; whilst our common smaller species, O. striatus, is placed in the section having an even number (6) of ridges on the thorax. Of course in the former case there would be a mesial ridge, and the species of the second section would be destitute of a mesial ridge, and thus two distinct types of sculpturing might be said to exist in these very closely-allied insects,—a peculiarity which would not be in accordance with our general experience. The O. exaratus, however, shows that such is not the case. All the species have six ridges. The differences in the three species are, that in O. striatus the four ridges on the dorsal surface of the thorax are equidistant and entire, and they extend from the base to the apex of the thorax; the other two ridges are short, confined to the hinder half of the thorax, and situated, one on each side, rather nearer to the lateral margin than to the dorsal ridges. In the other two species the above so-called four dorsal ridges are interrupted, the outer pair vanishing on the anterior third of the thorax, and the middle pair interrupted about midway between the base and apex of the thorax, and reappearing, more widely separated, on the fore part. In O. sulcatus the two middle ridges are almost united into one ridge, being separated only by a slender impressed line. In O. exaratus the two corresponding ridges are distinctly separated by a shallow, densely punctured groove; the space between them and the nearest adjoining ridge on either side is, however, fully three times greater than that which separates the middle pair. O. sulcatus has the abbreviated outermost ridge on either side well developed and glossy. In O. exaratus it is represented by a mere swelling, nearly as densely punctured as other parts of the thorax. In both insects there are four large shallowish foveæ near the hinder margin of the thorax, separating the ridges; in O. striatus the foveæ can scarcely be traced; here the sides of the thorax at the base are parallel for a short distance, then they converge suddenly to the front. In O. sulcatus they converge from the base to the apex, but present a gently convex outline, and the part immediately below the anterior angle is somewhat incrassated and slightly rounded. In O. exaratus the sides of the thorax also converge, but are straight, excepting towards and near the anterior angles (which are depressed), where they gently bend inwards. The surface of the thorax is moderately densely and moderately finely punctured in O. sulcatus; in O. exaratus it appears under a common lens to be densely covered by very minute longitudinal scratches, separated by equally minute ridges; under a strong lens, however, punctures are visible, more especially on the hinder part of the thorax, but these punctures are confluent in the longitudinal direction. O. striatus presents a nearly similar condition of the sculpturing, but it is scarcely so dense and delicate on the disk of the thorax. The elytra are rather less convex in O. exaratus than in the other two species; in all they are covered by sharply impressed lines, separated by minute longitudinal ridges, besides which in O. striatus the dorsal surface of each elytron presents six equidistant and equally developed costæ, and a row of somewhat isolated punctures between them. In O. sulcatus the intermediate costæ—*i. e.*, the first (or that nearest the suture), third and fifth—are wanting, or rather they are not distinguishable (excepting in a slight degree in certain parts) from the very minute longitudinal ridges filling up the interspaces; of these there are five, the central one representing the costa; there are six rows of somewhat isolated punctures, as in O. striatus. O. exaratus presents an intermediate condition, for each elytron has six costæ, but the alternate ones are rather less raised; the punctures are much larger in their transverse diameter, filling up almost the whole interspace between the costæ. The first, third and fifth costæ (being those which are less elevated) are depressed, and punctured in parts. There are other differences in these insects observable in the structure of the legs and antennæ, but those already pointed out will render them easily distinguishable."

Major Parry read the following:—

Further Remarks on Mr. James Thomson's 'Catalogue of Lucanidæ.'

"Mr. James Thomson having kindly placed at my disposal for examination the type-specimens of some interesting species of Lucanoid Coleoptera formerly belonging to Count Dejean's collection, as well as of those species described by himself in his recently-published 'Catalogue of the Lucanidæ,' I have drawn up a tabular statement upon the synonymy of the species in question. To this I have added a few observations, and the whole may be considered as an Addendum to my Remarks upon Mr. Thomson's 'Catalogue' which have been already published in the Society's 'Transactions.' I am now able to state that the opinion therein expressed, that several of the species in question had previously been published, has, after a careful examination of the type-specimens, been fully corroborated. To those Members who are more particularly interested in the Lucanoid Coleoptera, the types of Count Dejean's species, now exhibited, together with the handwriting of this celebrated Entomologist, cannot but prove interesting.

Mr. J. Thomson's Species.	*Synonymous with*
1. Prosopocoilus bulbosus, *Hope* (var. minor), *Thoms. Cat.* p. 396.	Macrognathus Spencii, *Hope*, *Cat.* p. 6, (var. max.)
2. Cladognathus astericus, ♀, *Thoms. Cat.* p. 417, *n. sp.*	Prosopocoilus occipitalis, *Hope*, *Cat.* pp. 4, 13.
3. Dorcus axis, ♂, *Dej. Cat.* (var. minor).	Dorcus bucephalus, *Perty.*
4. D. semirugosus, ♂ (var. minor), *Thoms. Cat.* p. 422, *n. sp.*	D. Tityus, *Hope*, *Tr. Ent. Soc.* iv. p. 74.
5. D. exaratus, ♀ (*Dej*)., *Thoms. Cat.* p. 426.	D. lineato-punctatus, *Hope*, *Cat.* p. 23.
6. D. Ceramensis, ♂, *Thoms. Cat.* p. 424, *n. sp.*	D. concolor, *Blanchard*, *Voy. Pole Sud.* iv. 138, pl. ix., fig. 10.

Mr. J. Thomson's Species.	*Synonymous with*
7. D. Diabolicus, ♂, *Thoms. Cat.* p. 423, *n. sp.*	D. Niponensis, *V. Vollenhoven*, *Tijd. v. Ent.* iv. p. 113, pl. vii. fig. 3.
8. Ægus cicatricosus, ♂, *Dej. Cat.*	Ægus Chelifer, *M'Leay*, *Hor. Ent.* p. 113.
9. Sclerostomus leiocephalus, ♂, *Thoms. Cat.* (var. minor).	Dorcus femoralis, *Guerin*, *Rev. Zool.* 1839, p. 303.
10. Scortizus cribratus, ♀, *Thoms. Cat.* p. 429, *n. sp.*	Scortizus Neotragus, ♂, *Westwood*, *Tr. Ent. Soc.*, n. s., iii. p. 207, pl. xi. fig. 3.
11. Nigidius cornutus, *Thoms. Cat.* p. 401.	Figulus trilobus, *Westwood*, *Ent. Mag.* v. p. 263.
12. Figulus Australicus, *Thoms. Cat.* p. 432, *n. sp.*	F. regularis, *West. Ent. Mag.* v. p. 263.
13. F. vulneratus, *Thoms. Cat.* p. 433, *n. sp.*	? F. anthracinus, *Klug.*, *Ins. Madagascar*, p. 85.
14. Ceratognathus Westwoodii, ♂, *Thoms. Cat.* p. 433, *n. sp.*	Ceratognathus punctatissimus, *West. Tr. Ent. Soc.* ser. 3, i. p. 433, pl. xv. fig. 4.
15. C. Helotoides, ♀, *Thoms. Cat.* p. 434, *n. sp.*	Sinodendron ? areolatum, *West. Tr. Ent. Soc.* ser. 3, i. p. 430, pl. xiv. fig. 2.

"Professor Westwood's descriptions of the two last species were subsequent to those of Mr. J. Thomson.

ÆGUS CICATRICOSUS.

"This insect, formerly belonging to Count Dejean's collection, is stated on the label to have been received from Java. I cannot but think this to be erroneous. In the first place, I have had the opportunity of examining various collections containing numerous series of well-known previously-described species from Java belonging to the genus Ægus, and I have never as yet been able to recognize another specimen of the insect alluded to. Secondly, numerous examples of it (now before the Meeting) have lately been received, both from Cambodia and Malacca, evidently identical with Count Dejean's species, and found (upon examination with a specimen in the British Museum collection notified as received from Mr. M'Leay) to be likewise identical with Ægus Chelifer, described by that Entomologist in the 'Horæ Entomologicæ,' p. 113, and stated to be from Australia. The last-mentioned habitat must also be incorrect, in corroboration of which opinion I may further add that Nigidius cornutus, described by Mr. M'Leay (*lib. cit.*) with the habitat of Australia, has recently been received both from Cambodia and Malacca; examples in the collections of Mr. W. Saunders and Count Mniszech being identical with a typical specimen in the British Museum.

"Mons. Reiche, in his 'Critique' upon Dr. Burmeister's 'Handbuch der Entomologie' (*vide* Ann. Soc. Ent. de Fr. vol. i. ser. 3, p. 82), states Count Dejean's insect to be identical with Dorcus cicatricosus of Wiedemann, from Java. In this I cannot agree, as, according to Wiedemann's description in the 'Zoologisches Magazin,' vol. ii. p. 108, it is evident that the insect there characterized represents a female, no allusion at all being made to the male. Wiedemann's species is no doubt, as suggested by Dr. Burmeister, the female of Ægus acuminatus, *Fab.*, a species far from uncommon in Java.

"With all these facts before me, I have but little hesitation in referring Count Dejean's species to Ægus Chelifer of M'Leay with the habitat of Cambodia and Malacca instead of Australia, and a distinct species from Ægus acuminatus of Fabricius.

"The interesting series of this species now exhibited, with their extraordinary variety of form and sculpture, shows the very great difficulty the Entomologist must experience in deciding as to the identity of species from a brief written description only, seeing that the same species may be most conscientiously described under three or four different names,—a fact which has, to my knowledge, already in several instances occurred.

"To obviate this inconvenience I would suggest to Entomologists who may hereafter describe any of the Lucanoid Coleoptera to have regard to and to notify the state of development of the specimens described. In using this expression I allude exclusively to the growth of the mandibles, those organs being of primary importance in this group of Coleoptera, exhibiting as they do the most anomalous character of the group, especially as regards their dimensions in comparison with the insect itself, and their extraordinary variability in form and sculpture. An acquaintance with numerous series of species of the different genera sufficiently establishes that three distinct forms of development exist; these may be specified as—var. max., var. med., and var. minor; and if future describers will notify from which form their description is drawn up, such a notification will, I feel confident, considerably assist the student, and perhaps also prevent other Entomologists from describing as new species insects which, after all, are only subordinate modifications of form of species previously well known and described.

PROSOPOCOILUS BULBOSUS, *Hope* ♂ (var. minor), *Thoms. Cat.* p. 396.

"I have examined the unique specimen in the Hopeian collection which was described by Mr. Hope (together with Lucanus bulbosus and other species) under the name of Lucanus Spencii in the 'Transactions of the Linnean Society,' vol. xviii. p. 589. I have no hesitation in regarding L. Spencii and L. bulbosus as identical. The type-specimen of L. Spencii is one with fully-developed mandibles. The name of Spencii has a slight priority (*vide* the publication alluded to), and, as well out of deference to the memory of that distinguished Entomologist, ought, I think, to be retained. The var. minor of this species appears to be far from uncommon; but the specimen in the Hopeian collection is the only one on record of the var. max.

CERATOGNATHUS HELOTOIDES, ♀, *Thoms. Cat.* p. 434.

"This species is the last of those described by Mr. Thomson in his 'Catalogue,' and, as I suggested in my former remarks, proves to be identical with the insect described and figured by Professor Westwood under the name of Sinodendron? areolatum, ♀ (*vide* Tr. Ent. Soc. 3rd ser. vol. i. p. 430). The general appearance of this species is, as notified by Prof. Westwood, far more in accordance with the genus Sinodendron than with Ceratognathus, but, as the male is at present unknown (although Mr. Thomson appears inadvertently to have described it), it must still remain a matter of doubt to what genus it ought to be referred. Professor Westwood, in a note at the end of his paper (*lib. cit.* p. 437), suggests that, in the event of the two species proving identical, the unintelligible nomenclature and description of Mr. Thomson ought to prevent the retention of the name he has given: although partially agreeing in this respect, the point is fairly open to discussion, and I should be glad to hear Members express their opinions upon it."—*J. W. D.*

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